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WHEN the fire department of any large city responds to an alarm you generally find American-LaFrance there, for unexcelled dependability, power and endurance have placed American-LaFrance in 90% of America's fire departments.

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ELMIRA, N. Y.

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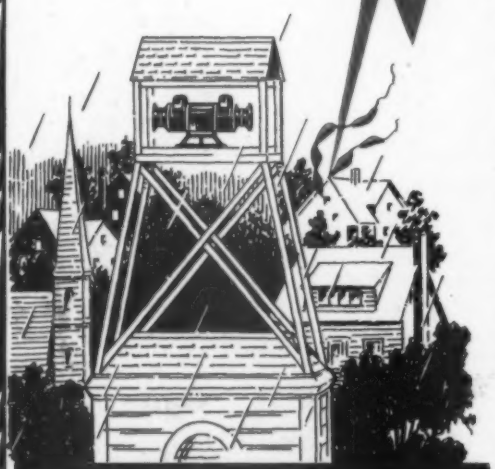
AMERICAN FIRE APPARATUS LA FRANCE

The Mighty Sterling is the Ideal Fire Signal for your Town



The Sterling Model M illustrated above is the perfect and dependable fire signal for small cities and towns having Volunteer Fire Departments. It is also used extensively by large industrial plants and mines where an effective fire signal is important.

Give Your Town This Protection

Do not depend upon bells and whistles, but install a Sterling Model M that will shriek out the fire signal for miles around. Its warning can never be mistaken and it always commands attention and quick action.

Control switches to set in operation this effective signal can be placed at one or more central and convenient points in the town — at any street corner, the telephone exchange, power station, fire house, bank, etc., etc.

Write for particulars and terms of purchase.

Use the coupon below.

THE STERLING SIREN FIRE ALARM CO., Inc.

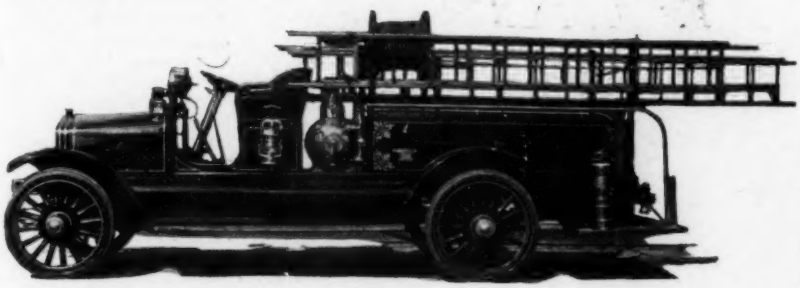
61 Allen Street **Rochester, N. Y.**

Send particulars about the purchase of a Model M Sterling Siren.

NAME .....OFFICIAL POSITION.....

TOWN .....STATE .....

Chicago Office—2810 Washington Blvd.



This Sanford of ten years ago rendered unfaltering fire protection service until it was replaced by

Then—

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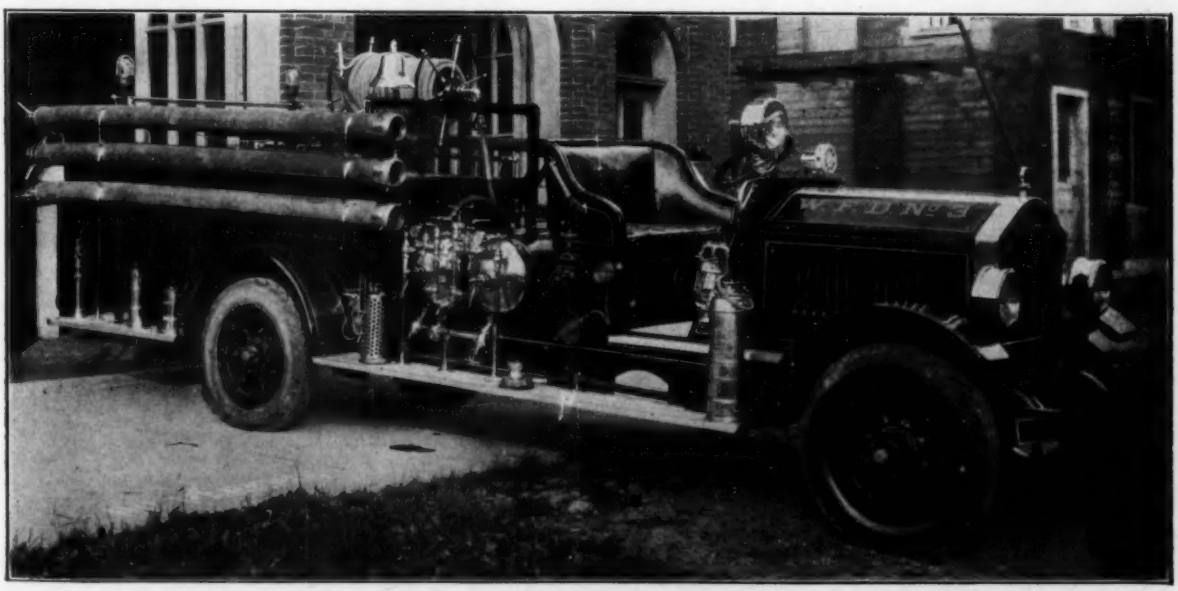
Now!

1926

The modern 500-gallon triple combination Sanford Apparatus of today which will give many more years of unfaltering service.



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The Journal of the Fire Protection Profession Since 1877

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FIRE ENGINEERING

A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER

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Former Deputy Chief in charge of High Value District New York Fire Department. Lecturer on fire fighting at Delehanty Institute, N. Y.

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Safe on First!

NOW that the baseball season is well under way, let us give thought to the fact that one hit does not ordinarily make a game!

¶ Your team has to hit and keep on hitting if they are going to win.

¶ Isn't the same thing true of the advertisers in this paper? Look through any issue of FIRE ENGINEERING and you will find that the leaders are all old friends, appearing regularly issue after issue.

¶ All of which suggests the following story entitled "Hiram's Mistake:"

"I put an ad in the paper once; but that was one of my foolest stunts," said Hiram Gubbins. "I wanta say that advertising don't nohow pay. A two-inch ad was what I run in just one issue and only one, for that was enough to show me plain that advertising don't bring no gain."

Said the ad man then, "If you used that dope in estimating the worth of soap, you'd wash one finger—and then assert that soap had little effect on dirt. You'd dip one foot in the bath some night and claim that bathing was useless quite; that soap and water were more or less completely futile for cleanliness.

"If you'd be clean you must get the habit instilled by Ivory, Pears or Babbitt, you must wash a lot in a thorough way and bathe—well, anyhow, Saturday! And advertising is much the same, it's keeping at it that wins the game; and he—you'll pardon me—is a dunce who puts an ad in the paper—once!"

The Publishers

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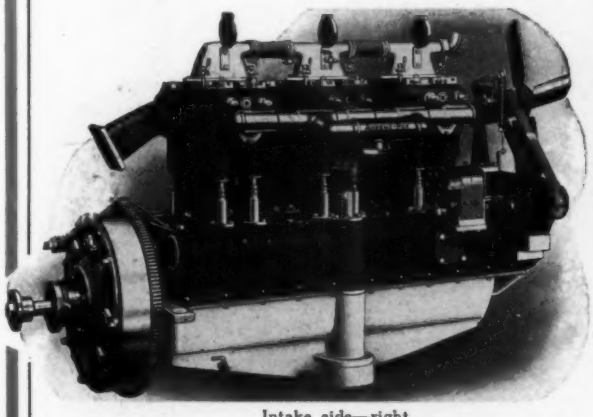
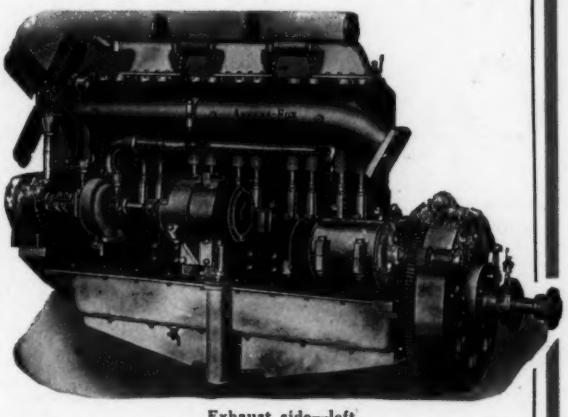
Ahrens-Fox



Intake side—right



Exhaust side—left

Super-Powered Motor

was Designed by Fire Engineers

"IT'S the motor that counts," is a phrase used by nearly all progressive fire officials. They realize that where a long run is called for and where you are forced to deliver hundreds of gallons of water per minute under high pressure—the brunt of the work falls upon the motor. It must not skip or fail—it must **deliver.**

The close contact of Ahrens-Fox engineers with actual fire service conditions and long experience in designing apparatus to meet these conditions thoroughly qualifies them to furnish municipalities with apparatus equipped with a motor of proven dependability and unquestioned service qualities.

Fire officials who realize the responsibilities of their positions and their duty of protecting the life and property of their town or city as far as humanly possible, know that quality and service are far more important than any other consideration. The cost of your apparatus is measured by service rendered over a long period of years, and not by the initial cost.

Hundreds of municipalities throughout the country who are fortunate in having such officials in charge of their fire departments are now equipped with Ahrens-Fox apparatus. Others are planning to make such purchases in the near future; and if you are interested in up-to-date fire apparatus we shall be glad to send complete information without obligating you in any way.

"Nothing is too good for fire service,
and nothing but the best will do."—Ahrens-Fox.

The Ahrens-Fox Fire Engine Co.

"Builders of Quality Fire Apparatus"

Cincinnati

Eastern Representative
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Fisk Bldg., New York

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Minneapolis Representatives, JOS. F. AUEL Company, 718 Builders' Exchange Bldg., Minneapolis, Minn.
Canadian Representatives, THE BICKLE FIRE ENGINE CO., Woodstock, Ontario

Non-Corrosive Contacts!

The greatest enemy of any infrequently used electrical mechanism is contact corrosion.

This is particularly true of the contacts in such devices as fire alarm and police signal boxes which must be placed where atmospheric conditions vary greatly.

Air laden with salt, soda, sulphur and other gases soon puts delicate electrical contacts out of operation.

Since sure operation at all times is a first requirement of such systems, non-corrosive elements have been given great consideration in the design of GARL systems.

GARL Fire and Police boxes have absolutely non-corrosive mercury contacts, giving under all conditions an electrical connection the equivalent of a soldered joint. They are failure proof.

This exclusive feature with the following advantages accounts for the superiority of GARL Signal Systems.

GARL SIGNAL boxes are of attractive design and distinctly storm-proof

Simplicity of design and construction combines low first cost with insignificant maintenance expense.

Telephone connection with headquarters from every signal box eliminates difficulties of telegraph system. Telegraph connection can be had when desired.

No complications in cross-signals. Two boxes pulled on same circuit easily located.

Note the simplicity of internal construction. Nothing to get out of order or to confuse the layman.

Modern GARL Systems are backed by over 30 years' experience in designing and building alarm, signal and telephone systems. GARL Systems have been giving highly satisfactory service in a number of cities and in some of the largest industrial plants of the country.

The present GARL organization is strongly financed with an experienced engineering department ready and able to fit GARL Systems to any city or industrial requirement.

Investigate GARL Signal Systems before you buy. Include us in your requests for Bids.

THE GARL SIGNAL COMPANY

Akron, Ohio

A RELIABLE FIRE ALARM SYSTEM MEANS LOWER FIRE LOSSES

A Nation-Wide Service

Interior view of a typical A. D. T. Central Office—at Detroit, Mich., showing the latest and most efficient types of apparatus.

How We Help Fire Chiefs to Prevent Small Fires from Becoming Big Ones—

In this day of modern fire prevention and protection methods you fire officials realize without exception the vital importance of automatic sprinkler equipment in large buildings everywhere — and you, therefore, insist upon sprinkler installation.

Now, what we do is use our offices in cities throughout the country with their electrical and mechanical facilities to supplement, strengthen, and complete the protection provided by this universally used sprinkler equipment.

Thru these offices we provide a service that can be divided into two classes, as follows: First, sprinkler supervision with a constant day and night check-up on every vital part of the sprinkler equipment and instant detection of a dangerous condition or a fire; Second, a watchman supervisory service that gives needed warning of the failure of a watchman to make his rounds because of death, accident, illness, robbery, or other cause.

These services are provided as a form of cooperation with local fire departments; they are approved by the National Board of Fire Underwriters, and it is our desire to work in closest harmony with all fire officials for the common good.

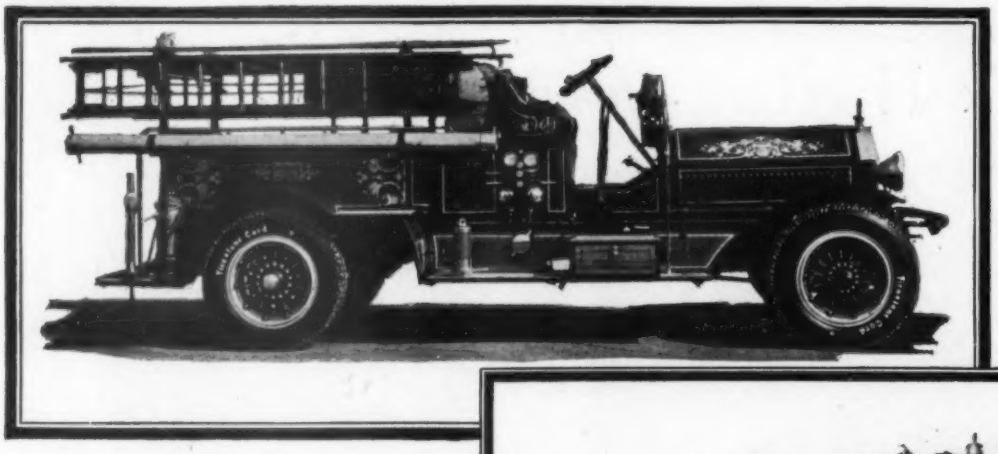
May we send Complete Information?

CONTROLLED COMPANIES

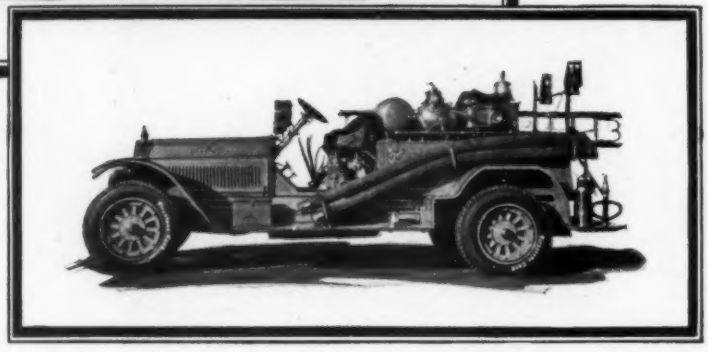
American District Telegraph Co.

Executive Offices, 183 Varick St.
New York City

AMERICANS SHOULD PRODUCE THEIR OWN RUBBER . . . H.F. Firestone



The Mark of Quality



New Fire Equipment of the Hagerstown, Md., Department. Firestone Heavy Duty Pneumatics were specified.

Where Dependability Is VITAL

Rugged strength to bear the strains of emergency driving—to hold the road on sharp turns—to reduce side sway and insure greater safety and endurance. These are the qualities which cause leading fire departments to standardize on Firestone.

The Firestone non-skid tread insures firm grip with positive traction under all weather conditions. The instant response to braking or acceleration adds security in traffic.

Gum-dipping, the exclusive Firestone process, insulates every strand of every cord with live rubber, minimizing friction and destructive heat. The result is a tire of greater strength and capacity for rugged service.

Your Firestone dealer can give you many interesting tire facts. See him and understand Firestone economy.

MOST MILES PER DOLLAR

Firestone

HEAVY DUTY PNEUMATICS FOR FIRE APPARATUS

Portland Needs No Longer Worry About Oil Fires

City has just adopted this surest of all safeguards—

AMDYCO
FOAM POWDER
Used with the Amdyco
FOAM GENERATOR

With the growing use of oil and other flammable liquids, no community can feel secure against such dangerous fire hazards without the protection that only the new Amdyco method can give. Fires that once took hours of hard work with untold loss of property, are now put out in a matter of seconds or minutes, as tests after tests have proven.

Try out the Amdyco equipment on one of your present fire trucks, and specify it on your next new piece of apparatus. It will easily pay for itself the first time you use it.

Write for literature describing the Amydco method. We will gladly send it to interested fire officials.

"Better Foam in Better Form"

AMDYCO CORPORATION

100 E. 42nd St., New York

Showing the Amdyco Foam Generator in operation. Water comes in one line (under regular pumper or hydrant pressure) mixes with the Amdyco Foam Powder that is fed into the hopper as demonstrated above, and goes out the other line as a foam stream.

Clipping from
Portland, (Ore.) Telegram
April 27, 1926

giving out dense clouds of black smoke. Center—Firemen hosing

FLAMING OILS SOON PUT OUT

Test of New Equipment Secured by City Proves Immediate Success.

An oil fire—a seething, red hot mass of flames shooting up great billows of black smoke from a pit dug in the sand at the foot of Montgomery street—was extinguished in 17 seconds with a new oil fire fighting foam generator, in a demonstration Tuesday morning.

The pit was 12 feet wide by 30 feet long. It contained 450 gallons of crude oil and distillate. In the presence of city officials, representatives of oil companies and other industries using oil and oil products, Fire Chief Lee G. Holden touched off the blaze.

The huge clouds of smoke reached hundreds of feet into the air. The heat from the flaming pit drove the spectators to a safe distance. When the fire had enveloped the entire pit Chief Holden ordered the nozzle men to walk into it. The shooting stream of foam extinguished the flames in 17 seconds

The new process involves a device which mixes powdered chemical with the city water. It is coupled to the regular hose line at a safe distance from the fire. On top the mixer, which is portable, weighing only 60 pounds, is a funnel into which the chemical is poured.

From the nozzle a heavy stream of foam is emitted and this chokes out the oil fire.

The apparatus, known as the Amdyco, was bought by the fire department from the Howard Cooper corporation. It cost $510. The chemical used costs 17 cents a pound.

BIG SAVING SEEN.

Firemen were highly elated over the tests because they say the apparatus has brought the cost of oil fire fighting down to a reasonable basis. The use of chemical foam is not new, but formerly it had to be generated from two large tanks and the cost of installation of the tanks was in many cases prohibitive.

Commissioner Bigelow pointed out that if such a device had been in use in 1911 the life of Chief David Campbell, lost in the disastrous Union Oil company fire, might have been spared.

The apparatus forms part of the regular equipment of squad company No. 1, Fourth and Taylor streets.

ELEVEN TRACTS OF

Underlying every successful mechanical development is an original idea — something new.

The remarkable performance of the WATEROUS ROTARY PUMP is made possible by the patented rotor, the part that impells the water.

This rotor was not hit upon by accident, but is the natural development of forty years of pump building.

The best proof of the real merits of the Waterous is by demonstration and by talking to those who have used one for a number of years. See one run and judge for yourself.

Your next step will then be to specify a Waterous Rotary Pump on your new apparatus.

WATEROUS FIRE ENGINE WORKS
INCORPORATED

Also Manufacturers of the "Waterous" Fire Hydrant

Saint Paul, Minnesota

Established Waterous Dependable ROTARY PUMP 1886

FIRE ENGINEERING

(A Consolidation of FIRE AND WATER ENGINEERING and THE FIRE ENGINEER)

The Leading Journal of the Fire Protection Profession

VOLUME LXXIX MAY 25, 1926 NUMBER 10

Value of Intelligent Fire Department Leadership

Success of Work Depends on Chief—Size of Fire Loss Index to Department's Efficiency—Relocation of Apparatus

By JOHN ASHMEAD, Fire Prevention Engineer

THE importance of the proper leadership to the efficiency of the fire department and the immense responsibility that is placed on the shoulders of the modern fire chief, is very forcibly presented in this article. The author points out the necessity of relocating fire stations in order to keep pace with the larger cruising range of modern apparatus.

John Ashmead, Fire Prevention Engineer.

A traveler walking along the road one day came to some men working in a quarry. He stopped to watch them, and then, being somewhat of a student of human nature, he asked one of them what he was doing. "Can't you see?" growled the man sullenly, "I'm breaking stones." "And what are you doing?" he asked the second. "Getting two dollars a day," was the reply. "And what are you doing?" he asked the third. The third man looked up with a smile. "I am helping," he said, "to build a beautiful cathedral."

I know of no story that better illustrates the work the firemen of this country are doing. They are helping to build the United States, and they are not only helping to build it, but they are helping it stay built.

Value and Size of Fire Department

No one has ever been able to fix the value of a fire department to its community. No one has ever attempted to estimate what would happen if there were no fire departments. The value of a fire department has been recognized so far back as we care to look in history. A man who had the audacity to stand up in any gathering today and say that there is no need for a fire department, would be branded as a lunatic and incarcerated in an asylum.

What constitutes a proper fire department organization for any given community has been pretty definitely determined. Given the area, the hazards, the population and the topography of a city—the fire-fighting equipment necessary, the number of men required and the locations of the fire stations can easily be arrived at. There is no secret about this. Standards have been adopted by the various fire chiefs' associations and accepted by the insurance authorities. Anyone desirous of establishing a fire department can, in the confines of his own city or state, find someone competent to aid him develop his fire-fighting organization along proper scientific lines. That's a simple problem.

Success of Work Depends on Chief

The difficulty lies in getting proper operation. A successful fire department, one that can point to a low loss per fire, one that can point to a few number of fires per thousand of population, is one that can point with pride to an efficient progressive directing head. Wherever I have visited and found a chief officer, who was a real fireman, upright, progressive and courageous, there I have found a fire department that was upright, progressive and courageous. And wherever I have found a chief that was wobbly in any of these manly virtues, there I have found a wobbly fire department.

I know the difficulties a chief must surmount in order to develop an efficient organization. I know of the political pressure that can make the path of duty a steep and stony road. I know the temptations that beset a chief officer, I know the expedients that must often be resorted to for various reasons. I know that all these things tend to retard progress and I have often apologized for conditions that seemed to me could have been improved if the same courage displayed at a fire was applied. And knowing all these things I still have no hesitancy in saying to you that the success of the fire department is dependent on the ability of its chief.

Above all things, a chief must be progressive. He must keep abreast of the times. Anyone who has observed the chiefs of yesterday and compared them with the chiefs of today must agree that the old order passeth. The chiefs of yesterday, the men who established our fire departments as symbols of valor, were most likely men chosen for their physical rather than their intellectual attainments. Today the reverse is rapidly coming true.

The modern chief must combine the virtues of a fire-fighter, engineer and banker. When one considers that the chiefs of New York, Chicago, Boston, Baltimore, and other large cities are supervising annual expenditures of from one to twenty milions of dollars, are asked to pass opinion on everything from building construction to explosives, and must be responsible for the upkeep of all sorts of expensive mechanical equipment, one is forced to the realization that the man who survives in the fire service today must be a man with brains enough to keep his department abreast of the times.

Development of Department

To trace the development of the fire department as it changed with varying conditions, let us picture the improvement in equipment. First we had the bucket-brigade composed of neighbors; then came the hand-pump drawn by citizens organized into some semblance of a fire company; next the steam fire engine was developed to meet the demand for some instrument capable of throwing larger streams of water; then came motor apparatus with its greater speed making it possible to cover larger areas; right now various types of foam producing pumpers are being marketed designed for special operation on oil fires; very recently tests were conducted using carbon dioxide on open fires with marked success. While all this was going on the water supplies were developing from cisterns to high-pressure systems.

Fire Protection Costly

In the meantime the expense of maintaining fire protection departments has been rapidly increasing. A large part of this expense has been due to the betterment of conditions for the

fire-fighters, the introduction of the 2-platoon system and similar improvements. Fully eighty per cent of the cost of fire department maintenance is paid out in salaries leaving but 20 per cent for general maintenance and new equipment. Meanwhile the cities continue to grow and there is a constant outcry for new fire stations and a greater department service.

The cry for greater fire department service could be easily satisfied were it possible to rub a lamp and have plenty of money materialize. But it isn't. The money to support the fire department must come from the citizens through some form of taxation.

As a city grows the area entitled to a fire protection usually increases out of proportion to the values that are taxable. A chief oftentimes finds himself in a quandry as to how to furnish fire protection to newly built upon areas in his city, when there are no funds available or in sight to be used in building new fire stations, buying additional apparatus and employing more men.

Relocation of Apparatus to Meet Conditions

During the past two years I have been on investigations in five different cities to consider just that very problem. One striking fact that stands out in all these investigations is that some day many cities will be forced to relocate their fire stations in order to provide protection within reasonable distance of any hazard involved. They will have to do this in order to provide protection and still keep within their income. The stations can be readily relocated and the indications are that a great deal of the money required for improvements can be obtained from the real estate transactions.

The logic of this is readily apparent when one considers that in most large cities the fire stations were originally located on the basis of horse-drawn apparatus and near the center of the city or where the hazards were considered greatest. Naturally as the city developed, property occupied by these companies increased greatly in value.

The advent of motor apparatus with its greater cruising range permits the abandonment of some of these old locations, and they may be sold and the proceeds used to buy cheaper property in newer outlying districts.

Of course, any plans developed along these lines must be carefully considered. The problem is cited to illustrate one of the developments now taking place in fire department operation. The solution of such a problem is simplified in many instances by zoning laws that fix the locations of the various hazards so that the points where concentration of apparatus is needed are definitely determined.

We might point to another important development now taking place in the control of traffic conditions. Traffic presents more serious a problem than is generally appreciated affecting as it does the prompt response of fire apparatus. At the present time I am collecting data to determine some method of controlling traffic along the highways traveled by apparatus.

Running Card is of Immense Value

Along these lines we might bring in a thought about the assignment of apparatus for response or the running card. The running card is one of the most neglected, though essential aids a department can have. It constitutes a prearranged plan, devised to provide sufficient strength to meet any condition that can arise at any location. It need not be limited to locations where fire alarm boxes are, but can be arranged by the use of fictitious or dummy boxes to provide response for any location.

As a result of many running card studies, I am convinced that the average running card requires too much moving of apparatus for relocation in stations made vacant by companies working at a fire. I believe that many moveups are unnecessary and that with present day traffic conditions fire companies should not be on the street unless responding to an alarm. The proper protection of all areas under most conditions of service can be accomplished without moveups or relocations by drawing companies past stations that would ordinarily be used to house relocated companies.

These problems may not be interesting to men in the smaller departments whose cities have not developed to the point where such things must be considered. Neither were they thought much of in New York, Chicago, Boston or Baltimore a number of years ago. But to the student of fire protection all of these subjects are intensely interesting.

Fire Loss Index of Efficiency

However, one thing that every fire department is interested in, regardless of its size, is the fire loss. The fire loss is an index to the efficiency of the fire service. If your fire loss continues high it is an absolute indication of weakness in some branch of the fire protection service. It may mean lack of inspection, it may mean poor building construction, it may mean a weak water supply, insufficient apparatus, or perhaps unintelligent fire-fighting. A high fire loss indicates a weakness somewhere.

Recently there has been a spontaneous movement on the part of fire chiefs throughout the country to analyze the causes of their fire loss. It is true that for years many chiefs have been collecting statistics indicating so many fires from defective flues, so many from wooden shingles, hot ashes, matches, smoking and similar causes, but few have ever attempted to use this information to secure correction of the faults. Ex-Chief O'Brien of Indianapolis woke up to the fact one day that most of his fires were in dwelling houses with shingle roofs. He concentrated his efforts towards getting these roofs replaced and made a remarkable record in fire loss reduction.

Problem of Too Much Water

Fire loss is seldom the loss due to fire alone. A fire loss is the loss primarily caused by a fire, but it also includes an amount due to the losses incident to the fire, such as damage caused by falling walls, smoke and water damage.

As an indication of scientific development in fire-fighting it is interesting to note that a great deal of attention is now being paid to the proper direction of water streams on the

(*Continued on page* 536)

Milwaukee Firemen Radio Entertainers Read About Selves In FIRE ENGINEERING

Above is Chief Steinkellner of the Milwaukee Fire Department (left) reading about his fire fighting radio entertainers in the February issue of FIRE ENGINEERING.

The firemen have been off the air for some time due to the loss of their manager and pal, Captain Ernest Glander, who was killed on a treacherous railroad crossing.

But the boys are planning to go on the air again in a few days to continue the good work to which the captain gave the impetus. They feel he would be pleased over in the Beyond to know that his comrades are carrying on the job to make people happier. And the listeners over WHAD, the Marquette University-Milwaukee Journal station, will be glad to welcome back a feature of the programs they have sadly missed.

Modern Fire Alarm Signalling

Location of Boxes—"Master" Boxes—Proper Method of Installing Them—Several Types Commonly Used

By E. E. KIERSTEAD, E.E.

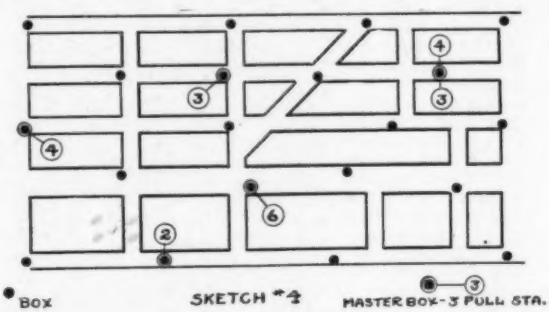
THE purpose of these articles is to give to the men entrusted with the care of Municipal Fire Alarm Systems a thorough working knowledge of the different types of apparatus, and the installation and care of them in service.

The Fire Alarm Signal Service has grown so fast, that it is practically impossible for one to know all there is to know about it. The author of these articles is actively engaged in the Engineering end of the profession and while not claiming to know all there is to know about it, he is well grounded in construction, maintenance, design and repair of Municipal Systems.

The articles are intended to give you a good working knowledge of the work and will take up in the order named the following: Line Construction, Alarm Boxes, Batteries, Generators, Switchboards, Repeaters, etc., until every phase of the work is covered.

The author will answer your questions, and help you with your problems. The only requirement is that you send your questions to Fire Alarm Department, care of FIRE ENGINEERING *and enclose a self addressed stamped envelope for reply. No charge is made for this service.*

Location: Boxes shall be located so as to suitably protect the city or town in which they are to be installed. In general,



it is considered that a box should be visible from the main entrance of any building in the congested or high value districts. In mercantile or manufacturing districts it should not be necessary to traverse more than one block nor more than 300 feet to reach a box; in closely built residential districts it should not exceed one block or 500 feet and in other residential districts should not exceed 3 blocks or 1,000 feet along the main artery of travel.

Boxes should be conspicuously located at street corners where possible. The box and a part of the supporting pole should be painted signal red, and a red light should be provided at or near the pole to denote location at night.

The placing of boxes in buildings on street circuits is not generally desired but where absolutely necessary they should be placed as near the entrance as is possible and all interior wiring put in rigid iron conduit, and the whole installation painted signal red to facilitate its being easily followed. They should also be protected by fuses at their point of entrance. Reliable means for testing and cutting out loops entering buildings should be provided. Sketch No. 4 shows a typical grouping or distributing of boxes in a high value district. In this layout you will note that the entire district is protected and boxes are easily seen from any building. The symbols used in the sketch are as follows: Round black dot, denotes a street box. Round black dot with light circle around it and tied in with circle containing number denotes a master box with so many pull stations inside of building. A word of caution at this time would be helpful. In using master boxes, it is necessary to have at least 30 volts on circuits carrying them.

Boxes should be placed on the pole facing any direction except the north. Avoid a northern exposure wherever possible on account of the severity of the northern storms. This will prevent the box doors from being caked with sleet and ice, sometimes making it impossible to open them.

Boxes should be placed on good sound poles, free from knots, etc., between 40 and 60 inches from the ground level. In placing up to date boxes in service it is well to put the new ones in thickly settled districts moving the older ones farther out of the city where less alarms are sounded. Do not ever make a practice of changing locations of fire alarm boxes. It is better to add a new one in the new location. This is necessary because people get used to locations and in event of fire usually run to the one most prominent in their minds and a delay will be encountered if the box has been changed.

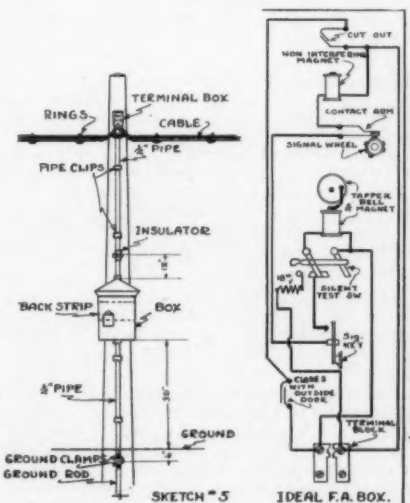
A manufacturer or merchant will sometimes buy the city a master box, upon being allowed to install pull stations in his building. This makes for good protection and adds another box to your system. The slogan, "a box a block," is a good proposition.

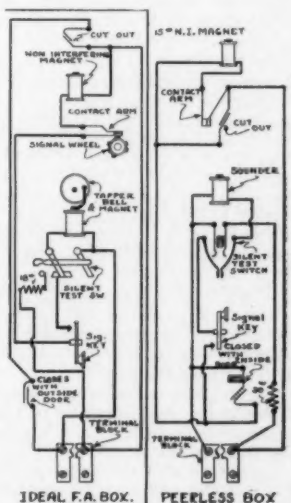
Installation of Boxes

Sketch No. 5 shows the standard method of installing boxes on wood poles, whether you are using wood poles or iron and regardless of your type of aerial construction the dimensions given are to be followed to make a standard unit. Do not install more than 20 boxes on an overhead circuit or more than 30 on an underground circuit in a compact area. Directions for putting up a box are as follows:

In using an insulator in connection with a box pipe riser the insulator should not be over 12 inches from the top of the box.

Before setting up the box it will be necessary to cut out a wood strip or back board 4 in. wide 1 in. thick, and the other dimension to be taken from the width of the box. The pole is now gained to receive the strip and the strip bored to receive the spikes which are driven into the pole until the strip is secure and even with the surface of the pole. The inside case is now taken out of the box and the box screwed into position as shown in the sketch. A piece of ½ in. pipe is now cut 12 in. long and threaded on both ends. The insulator is put on one end and the other end screwed into the box. A pipe is cut 5 ft. 6 in. long, threaded on one end and reamed to take off the burrs on both ends. The ground can be broken up and the ground rod driven into a depth of seven inches below the ground level. The wire supplied with the ground rod is run through the pipe and the pipe screwed into the box. The pipe and ground rod are then bonded together with ground clamps and the earth replaced and tamped down. The next step is to cut a piece of pipe long





enough to go from the insulator to the terminal box and screw it into place. The box wires are now put in, being pushed in from the top of the pipe in through the terminal box or can. It will be necessary to allow a few feet over for connections at the box.

The wires can then be cut off and made up to the terminal. The box wires should be carried over the top of the box case and the inside box screwed into place. The wires are now formed around the top and sides of the inside case and connected

to the terminals supplied with the box. The box can then be wound up, the jumper wire cut and the box placed into service. The pole should be painted with a red band about a foot wider than the box and the pipe and terminal also painted. The box should be tested by having it transmit its signal completely and the results noted.

A master box is installed in the same manner, except that the series loop wires must be attached in addition to the box wires. This box must be manually reset in order to receive impulses from the remote pull boxes. All joints should be soldered with a non-corrosive solder and joints should be well taped. All work must be done in a first class manner. The new box is placed on the assignment card as soon as installed.

TYPES OF BOXES

It was originally intended to give in this article location, installation and maintenance of fire alarm boxes, but owing to the fact that there are probably a few readers who do not know of some of the different types, it has been decided to give an account of some of the various types of boxes in this article, and take in maintenance, repair and timing of boxes in the next article. This will enable readers to more easily understand the following article. We will start with the newer types and take in the previous types in order:

1. Positive Non-Interfering Succession Box.

The wiring diagram of this box is shown in figure No. 7. This box is the latest box developed by fire alarm engineers and has several advantages which the older boxes do not have. It is as its name implies, non-interfering and successive. When actuated to transmit a signal, and the line is under control of another box, it will feel in and the armature will drop down, keeping contact arm from responding. At the beginning of the next round it will feel in again and if the line is not in use, will cut in and transmit its signal. The older boxes did practically the same thing except that they would only feel in once every four rounds. For instance, suppose a box was pulled and had transmitted three rounds and then a positive, non-interfering box is now pulled. It will start and feel in. If the line is under control of the other box the armature will drop down and hold up the contact arm. At the beginning of the next round it will feel in the line and if it is not under control of another box it will now transmit its full signal. The result is a saving in time of three rounds. The older boxes will only feel in once every four rounds and do not save as much time.

The proper setting of the signal wheels and all points needed in caring for boxes will be given in Articie No. 3.

2. A Second Type of P. N. I. Succession Box.

There is another type of positive non-interfering box performing the same functions as the above one excepting that it only feels in once every four rounds. The wiring of this box is shown in sketch No. 6. These two types of boxes are provided with a silent test switch so as to test them without sending in an alarm.

3. Shunt Type Master Box.

This box is the same as the one described in No. 2, being non-interfering in its action and performing the same functions. It is also equipped with an auxiliary magnet which serves to start the box from some remote point. The resistance of the shunt loop should be as low as possible, preferably not over 15 ohms. The shunt loop is a part of the city circuit and if it is broken a blow will be registered in headquarters. After the box is pulled it is necessary to manually reset it. The auxiliary stations are simply closed switches, the opening of which breaks the circuit and starts the box.

4. Plain Sector Boxes.

This box is not of the non-interfering type and is normally unwound. The pulling of the handle serves to wind the box. In other respects the box functions as others.

5. Old Type Boxes.

There are some cities which still have the old Gardner boxes. These boxes were found to be unsatisfactory because they were neither successive nor non-interfering and it was necessary to shut the outside door after an alarm had been sent in in order to sound another. Sometimes the door would be opened and left that way and a person pulling the box would get no response from it. These boxes are being rapidly replaced with newer and better ones.

When selecting boxes for your city it will be well to take into consideration the following:

1. The manufacturer's guarantee.
2. Its proven results.
3. Its lasting qualities.
4. Its ruggedness.
5. Its estimated life.
6. Its cost.

Alarm boxes are the most essential feature of your system and their selection should be based on past performances in other cities and not the cost alone.

The next article will contain maintenance, repair and timing of alarm boxes. Send in your questions to this column.

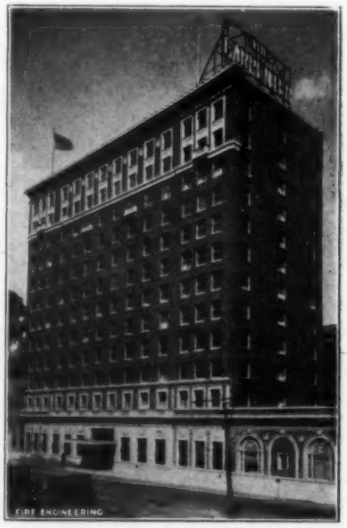
(To be continued)

NEW ENGLAND CHIEFS' ASSOCIATION CONVENTION PLANS TAKING SHAPE

Fine Program Being Arranged—Indications Point to Big Attendance—Traffic Manager Reports Great Demand for Reservations

INDICATIONS point to a record attendance of fire department officials at the fourth annual convention of the New England Association of Fire Chiefs which will be held in Manchester, N. H., on June 22, 23, and 24.

Chief Henry H. Heitman, of Waterbury, Conn., is chairman of the exhibit committee and reports that the display in the State Armory will be one of the most complete ever held at a chiefs' convention. The other members of the exhibit committee are Chief W. C. Greene, of Concord, N. H.; Chief Frank Charlesworth, of Providence, R. I.; Chief Roy K. Small, of Augusta, Me.; and Chief Arthur Montmeny, of Chicopee, Mass.



Hotel Carpenter, Manchester, N. H., Headquarters of the New England Fire Chiefs' Convention

This Hotel is Only a Short Distance from the State Armory, Shown Below, where the Exhibits are to be Held

Among the new apparatus that will be seen in the armory will be a new double banked city service ladder truck which the Maxim Motor Company, of Middleboro, Mass., is building for the fire department of Watertown, Mass.

George F. Cobb, traffic manager of the association, who has charge of making transportation arrangements and hotel reservations, reports that requests for accommodations are coming in every day in increasing numbers and that the demand for rooms is already ahead of what it was last year at this time when plans were being made for the convention in Pittsfield. Those intending to go to Manchester should write to Mr. Cobb at once at 783 Massachusetts Avenue, Boston.

New Hampshire State Armory, on Pleasant Street, Manchester, where New England Fire Chief's Exhibits will be Held

(Continued on page 536)

Car Barn Fire Gets Away After Good Start

One Car Fully Ablaze and Three Others Partly Afire When Blaze Was Discovered—Large Open Area Makes Difficult Problem

DURING the past few years there have been quite a number of trolly car barn fires and in each case the story is about the same: fire gets a start and, aided by the highly inflammable nature of the cars, spreads through the large open area and usually results in complete destruction of the building and contents.

The fire described in this article of the series on Administration deals with a typical case.

The fire occurred a few years ago in an eastern city. Getting beyond the original building, the fire entered buildings both to the right and left and before it was finally wet down it had destroyed all buildings on the block.

The layout of the car barn and adjacent buildings is shown in Figs. 1 and 2.

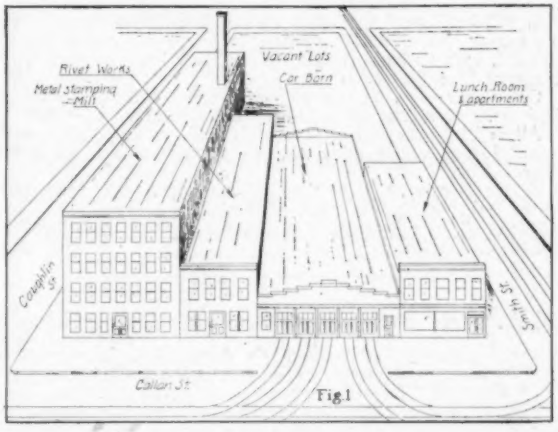


Fig. 1

Fig. 3 shows the interior of the car barn after the fire and also the buildings to the left which were compleletely gutted.

The occupancy of the various buildings is indicated on Fig. 2.

To the left of the car barn was a rivet works—a building two stories in height and running the full depth of the car barn.

This building was occupied by rivet cutting and shaping machinery on the first and second floors and the basement was filled with stock.

There was a great deal of rivet stock on the first and second floors and quite a quantity of rivets packed in cases and in bins.

This building was of brick construction with joists and heavy plank floors. The floors were thoroughly oil-soaked which probably increased the intensity of the fire once it reached this building.

To the left of the rivet works was a four-story metal stamping mill employed in manufacturing household utensils. As in the case of the rivet works the machinery on the various floors was of a heavy nature and the quantity of stock made the loads on the various floors excessive. This latter building was of the same type as the rivet works, namely, brick with wood joists. In both of these buildings there was an open stairway and open hoistways connecting the different floors.

To the right of the car barn was a two-story building occupied on the ground floor at the front as a restaurant and the balance of the building being used as a rooming house with apartments on the second floor at the Callan Street side.

To the rear of the plants on this block were vacant lots. The buildings on the surrounding lots are indicated in Fig. 2.

At the time of the fire the car barn was filled with empty cars, some undergoing repair.

The fire apparently originated around 3 o'clock in the morning before the morning crew arrived and after the shop had been closed for the night.

Outside of an assortment of chemical extinguishers the car barn had no fire equipment.

The Fire Department

The fire department in the city in which this fire occurred consists of the following:

Engine Co. No. 1, a 1,000 gallon triple combination; Engine Co. No. 2, a 1,000 gallon pumper and hose wagon combined; Engine Co. No. 3, a 750 gallon triple combination; Engine Co. No. 4, a 750 gallon triple combination; Engine Co. No. 5, 750 gallon triple combination; Engine Co. No. 6, 750 gallon triple combination; Ladder Co. No. 1, 60 foot service ladder.

There was one steam fire engine in reserve in this department.

The response to alarms at the locality of this fire was as follows: First alarm, Engine Companies No. 1 and 2 and Ladder Co. No. 1.

Second alarm, Engine Companies No. 3 and 4 and third alarm, Engine Companies No. 5 and 6.

The water supply was satisfactory, there being no shortage in supply of water although the pressure did not run above 40 pounds in the neighborhood of the fire.

Four hydrants on a ten-inch main and three hydrants on an eight-inch main were available. The mains were not dead ended so that all hydrants could be used. Location of hydrants shown on Fig. 2.

The Fire

As noted above fire originated about 3 o'clock in the morning. Apparently it started in some waste left beneath a car which was undergoing repair. Fire from this waste spread to the bottom of the car, fully involving this car. From this car fire spread to three adjacent cars which were burning at the time the fire was discovered.

Alarm was transmitted by telephone and Engine Co. No. 1 was sent to the fire as a still alarm assignment.

When it reached the blaze the fire had extended to the roofs of several cars in the neighborhood of the car in which the fire originated and the heat was banking beneath the roof and up over the cars throughout the barn.

No means of ventilating the structure were provided so that the heat rapidly accumulated.

Engine Co. No. 1 on rolling in stretched in two lines from hydrant No. 2. Men operating one of the lines struck a charged portion of electrical equipment at close range causing them to drop the line, putting this line out of commission for a few minutes. The other line, as a matter of precaution, operated very charily until the power was shut off which was fully five minutes after the arrival of the apparatus.

However, the two streams employed—both using 1⅛-inch nozzles—were not capable of covering the large area under the car barn roof with the result that fire continued to spread rapidly.

The lieutenant in charge of this company, upon noting the fire spreading, transmitted a call for additional apparatus. Instead of calling a first and second alarm, only the first alarm assignment was called which brought to the fire one additional engine company—Engine Co. No. 2 and one ladder company.

This additional apparatus arrived within a few minutes. Engine Co. No. 2 was stationed at hydrant No. 3 and stretched

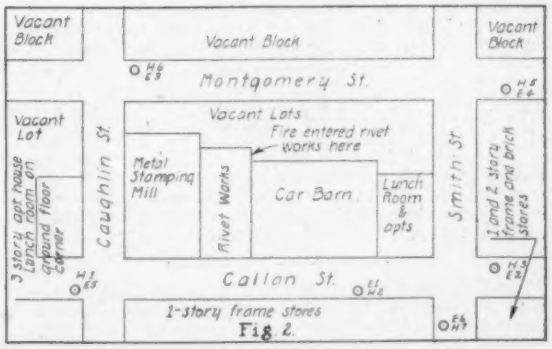


Fig. 2.

a single line to the car barn. Fire at this point was well beyond the power of the three streams employed.

After operating for 4 or 5 minutes the Assistant Chief, who followed the first alarm assignment in, transmitted a call for additional help—transmitting a second alarm and then a third.

The three lines already in operation from Engine Nos. 1 and 2 continued to operate from the Callan Street side of the car barn, making little progress.

In the meantime fire had entered the rivet works from the car barn through a rear window and apparently spread very quickly through both floors of this plant.

The apparatus on the second and third alarms, having to travel a much greater distance, responded after some little delay. Upon arrival at the fire the chief found the following conditions: Car barn fully involved, rivet works involved on both floors through their entire length, and fire entering metal stamping mill by fire passing through the roof of the rivet works.

Fire also entering appartment house to the left of the car barn.

Assignment of lines upon arrival of second and third alarm apparatus follows: Engine Co. No. 3 at hydrant No. 6 and two lines stretched, one going to the rear of the rivet works and one going to the rear of the metal stamping mill.

Engine Co. No. 4 at hydrant No. 5 and a single line stretched to operate on the car barn and the rear of the apartment house to the left of the car barn.

Engine Co. No. 5 at hydrant No. 1 and two lines stretched: one to metal stamping mill at Callan Street side and the other to the rivet works.

Engine Co. No. 6 at hydrant No. 7 and a single line stretched to the car barn.

But before any of these lines were in operation the fire had entered all four buildings shown on the block. The rivet works was burning to such an extent that streams from Engine Co's. No. 3 and 5 when they did get in service, were unable to check the fire.

The metal stamping mill fire rapidly gained in proportion and soon got beyond the scope of the department.

When it was found that the car barn, rivet works and metal

Fig. 3.

stamping mill were beyond saving, attention was directed to holding the fire from entering the apartment house on the corner of Callan and Smith Streets and also to prevent fire from spreading across Laughlin and Callan Streets.

In these operations the department was successful.

Fire was confined to the car barn, rivet works and metal stamping mill, and what fire there was that was burning in the apartment house was extinguished without very serious loss to this building.

Fire did not get beyond the block in which it originated.

The department did good work, considering the equipment and the lateness in arriving at the fire, and the fact that the fire was checked from spreading across Callan Street in the direction in which a strong wind was blowing, speaks volumes for the efficient work of the department in covering exposures. The Editor's ideas on the handling of this fire will be given in the next issue of FIRE ENGINEERING.

New London, Conn., Purchases Apparatus—New London, Conn., purchased a 750-gallon triple combination Ahrens-Fox pumper which will be delivered about June 1.

Blames N. Y., Fire Damage on Rusty Pipe—As a defense to the critisism of the five-alarm fire in the R. G. Dunn building in New York city, made by Chief Kenlon, an executive of the company stated that the reason that the firemen were hampered in their fight was because of a rusty valve in a standpipe on the street. The chief of the fire prevention bureau stated that the building owners were responsible for the standpipe within the walls, and if investigations proves that they were defective, the company would be held responsible.

Dominion Chiefs to Meet in Windsor

The 18th annual convention of the Dominion Association of Fire Chiefs is to take place at Windsor, Ont., on August 24 to 27, the headquarters to be at the Prince Edward Hotel, and the exhibits at the Armory. The program, according to Chief James Armstrong, secretary, Kingston, Ont., will include discussion on the following topics:

"Efficiency of Different Sized Water Mains and the Number of 1½" Hose Streams That Can Efficiently Be Taken from the Different Sized Mains Under Usual Hydrant Pressure."

"Which Gives the Greatest Efficiency, Large Central Stations with Sufficient Apparatus and Crews to Handle Them or Small Station with One or Two Pieces of Apparatus and Small Crews?"

"The Proper Care of Motor Apparatus." (This is in the nature of a follow-up of discussion of last year's convention when we dealt with the care, where no permanent firemen were employed. This year's discussion will be more along the lines of the Permanent Department).

"Auto Congestion and Its Fire Hazards."

"Private Plant Fire Protection Problems."

"Hand Pumps vs. Chemical Extinguishers."

"Chemical Engines vs. Booster Pumps."

After the opening session of the convention on Tuesday, August 24, there will be a Memorial Service. The business session will be from 2 to 3:30 p. m., when the members will visit the exhibit hall in a body. In the evening there will be a civic banquet, with an address by Franklin H. Wentworth, secretary, National Fire Protection Association.

On Wedneseday, August 25 the morning will be devoted to business, with a civic picnic in afternoon and evening.

All of Thursday will be devoted to business, up to about 4:30 p. m. In the evening there will be a moonlight boat trip on the Detroit River.

Friday morning, will be the closing session. Afternoon, visit to the Ford Automobile Plant at Ford City.

There will be a Question Box on the Secretary's desk throughout the convention.

Okla. State Firemen to Have Training School

The Oklahoma State Firemen's Association, in connection with its annual convention, to be held at Enid, Okla., on June 14 to 17, are to have a Firemen's Training School. The convention will include three distinct lines of work, the convention proper, the training school and a Fire Prevention Institute, for the citizens of Enid, under the auspices of the fire prevention board of that city. An outline of the tentative program follows:

Monday, June 14

Headquarters: Office of Secretary, Convention Hall Building

8:00 TO 11:00 A. M.—*Registration.*
11:00 A. M.—*Opening of Convention.*
7:30 P. M.—General Assembly at theatre.
Training School, 1:30 to 5:00 p. m., J. E. Taplin, director.
School A—Training the Fireman, Supt., Chief E. H. Miller, McAlester, Okla.
1:30 Elementary Training—Wolfe and assistants.
2:30 Demonstrating proper methods of using fire apparatus equipment and appliances—Osborne and Company of Oklahoma City Department.
4:00 First Aid Demonstrations—Wolfe.
4:30 Artificial Resuscitation.
School B—Fire Control and Extinguishment, Supt., Chief George Gattis, Chickasha, Oklahoma.
1:30 Fire Control and Extinguishment from the viewpoint of the Chief Executive Officer, McNarry.
2:30 The Hydraulics of Fire Streams, Representative National Board.
3:30 Ventilating in Fire Fighting, Goff.
4:30 Fire Alarms, Representative Gamewell Fire Alarm Company.
School C—Safeguarding the Business District, Supt., Chief Tom Lyle, Okmulgee, Oklahoma.
1:30 Building Construction, Nelson.
2:30 Electrical Installations, Representative Oklahoma Rating Bureau.
3:30 Mechanical Installations, Nelson.
4:30 Inspections, Atkinson.

Tuesday, June 15

School A—Training the Fireman, Supt., Chief E. H. Miller, McAlester, Oklahoma.
8:30 Elementary training, Wolfe and assistants.
9:30 Demonstrating proper methods of using fire apparatus, equipment, and appliances, Osborne and Company of Oklahoma City Department.
11:00 First Aid Demonstrations, Wolfe.
11:30 Artificial Resuscitation.
12:00 Noon.
School B—Fire Control and Extinguishment, Supt., Chief George Gattis, Chickasha, Oklahoma.
8:30 Fire Control and Extinguishment from the viewpoint of the Chief Executive Officer, McNarry.
9:30 The Hydraulics of Fire Streams, Representative National Board.
10:30 Ventilating in Fire Fighting, Goff.
11:30 Fire Alarms, Representative Gamewell Fire Alarm Company.
12:00 Noon.
School C—Safe-Guarding the Business District, Supt., Chief Tom Lyle, Okmulgee, Oklahoma.
8:30 Building Construction, Nelson.
9:30 Electrical Installations, Representative Oklahoma Rating Bureau.
10:30 Mechanical Installations, Nelson.

(*Continued on page* 532)

COURSE OF INSTRUCTION IN FIRE PROTECTION

AS GIVEN AT THE UNIVERSITY OF ILLINOIS

MECHANICAL INSTALLATIONS

By RAYMOND T. NELSON,
Engineer, Western Actuarial Bureau, Chicago

THIS eleventh installment of the University of Illinois Course in Fire Prevention continues the consideration of a type of common and very important hazards which the chief has to combat in his fire prevention work, the improper installation of mechanical and electrical devices. This paper is replete with valuable hints along these lines:

FURNACES

Furnaces are classified as follows:

Hand or Movable, embracing glue and soldering furnaces, oxyacetylene torches, blow torches, crucibles, cupels, and other small devices, such as stoves for heating irons in tailor shops, water heaters in barber shops, etc. Fixed gas pipe connections should not affect the classification of the furnace.

Stationary, embracing all furnaces not classed as Hand or Movable. Stationary furnaces are graded according to temperature as follows:

Low, embracing all furnaces with temperatures up to the melting point of lead, 600° Fahr.

Medium, embracing all furnaces with temperatures necessary to produce high pressure steam, anneal metals, glass, etc.; 600° to 1500° Fahr.

High, embracing all furnaces with temperatures necessary for ore roasting, bloom and billet heating, iron smelting or fusing; 1500° Fahr. and upwards.

Note 1: Furnaces grading High should grade as Medium and furnaces grading Medium as Low when not more than 100 cu. ft. in size, outside measurement.

Note 2: All furnaces used for heating only should grade as Low except boilers carrying more than 50 pounds pressure, which should grade as Medium.

Small boilers, not used in connection with power devices, such as those found in rubber tire repair shops, milk depots, etc., should grade as Low regardless of pressure.

The following List of Furnaces and Tables of Temperatures will be found useful for reference in establishing the grade of a furnace:

List of Furnaces

Grade

Low

1. Annealing Baths for hard glass (fats, paraffine salts or metals).
2. Bake ovens (in bakeries).
3. Boiling vats, for wood fibre, straw, lignin, etc.
4. Candy furnaces.
5. Coffee roasting ovens.
6. Core ovens.
7. Cruller furnaces.
8. Feed drying ovens.
9. Fertilizing drying ovens.
10. Forge furnaces (solid fuel).
11. Gypsum kilns.
12. Hardening furnaces (below dark red).
13. Hot air engine furnaces.
14. Ladle drying furnaces.
15. Lead melting furnaces.
16. Nickel plate (drying) furnaces.
17. Paraffine furnaces.
18. Recuperative furnaces (spent materials).
19. Rendering furnaces.
20. Rosin melting furnaces.
21. Steam boilers (low pressure).
22. Stereotype furnaces.
23. Sulphur furnaces.
24. Tripoli kilns (clay, coke and gypsum).
25. Type foundry furnaces.
26. Wood drying furnaces.
27. Wood impregnating furnaces.
28. Zinc amalgamating furnaces.

Medium

1. Alabaster gypsum kilns.
2. Annealing furnaces (glass or metal).
3. Charcoal furnaces.
4. Cold stirring furnaces.
5. Feed driers (direct fire heated).
6. Fertilizer driers (direct fire heated).
7. Galvanizing furnaces.
8. Gas producers.
9. Hardening furnaces (cherry to pale red).
10. Lehrs and glory holes.
11. Lime kilns.
12. Linseed oil boiling furnaces.
13. Porcelain biscuit kilns.
14. Pulp driers (direct fire heated).
15. Steam boilers (high pressure).
16. Water-glass kiln.
17. Wood-distilling furnaces.
18. Wood-gas retorts.

High

1. Bessemer retorts.
2. Billet and bloom furnaces.
3. Blast furnaces.
4. Bone calcining furnaces.
5. Brass furnaces.
6. Carbon point furnaces.
7. Cement, brick and tile kilns.
8. Coal and water gas retorts.
9. Cupolas.
10. Earthenware kilns.
11. Glass blow furnaces.
12. Glass furnaces (smelting).
13. Glass kilns.
14. Open hearth furnaces.
15. Ore roasting furnaces.
16. Porcelain baking and glazing kilns.
17. Pot-arches.
18. Puddling furnaces.
19. Regenerative furnaces.
20. Reverberatory furnaces.
21. Stacks, carbureter or superheating furnaces (in water gas works).
22. Welding furnaces.
23. Wood carbonizing furnaces.

Table of Temperatures—Fusion Points of Metals

	Degrees Fahr.		Degrees Fahr.
Blast furnace slag	2500	Iron (wrought)	3300-4000
Bessemer retort slag	3100	Lead	630
Brass	1600	Manganese steel	2300
Bronze	1450	Nickel	2700
Cast iron (pig)	2000-2400	Silver	1750
Copper	2000	Soft solder	340
Ferro-nickel steel	2250	Steel	2400-3300
Gold	1950	Tin	450
Iron (pure)	3275	Zinc	775

INSTALLATION OF HAND OR MOVABLE FURNACES—Gas Plates (Fig. 7)

Base: If plate *is not equipped* with legs at least 4 inches high, plate should rest upon an incombustible base or upon a combustible base protected by a course of 4-inch hollow tile on ⅛-inch asbestos crossed with boiler iron.

If plate *is equipped* with legs at least 4 inches high, plate may rest upon a combustible base covered with metal and

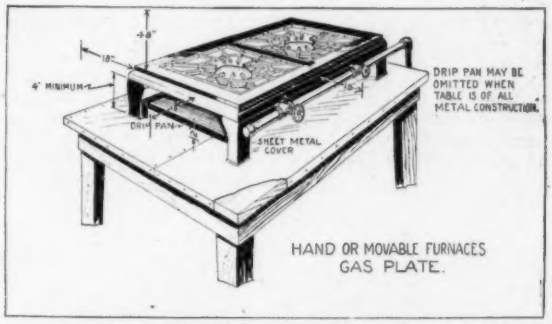

4" MINIMUM
DRIP PAN
SHEET METAL COVER
DRIP PAN MAY BE OMITTED WHEN TABLE IS OF ALL METAL CONSTRUCTION.
HAND OR MOVABLE FURNACES
GAS PLATE.

Fig. 7

have a baffle plate suspended at least 2 inches above combustible base.

Lateral and Vertical Clearances: Clearances between plate and unprotected combustible material above, and at sides, front and rear should conform to the following minimum requirements:

Above ..... 48 inches
Sides, front and rear ..... 18 inches

If combustible materials at sides and rear are protected with ¼-inch asbestos covered with sheet metal to a point 18 inches above burners, clearance at sides and rear may be reduced to 6 inches.

If combustible materials at sides and rear are protected with ⅛-inch asbestos covered with 4 inches of hollow tile to a point 18 inches above burners, clearance at sides and rear may be reduced to 2 inches.

Gas Connections: Gas connection should consist of an iron pipe.

INSTALLATION OF HAND OR MOVABLE FURNACES—Gas Soldering Furnace (Fig 8)

Base: If plate *is not equipped* with legs at least 4 inches high, plate should rest upon an incombustible base or upon a combusti-

ble base protected by a course of 4-inch hollow tile on ⅛-inch asbestos crossed with boiler iron.

If plate *is equipped* with legs at least 4 inches high, plate may rest upon a combustible base covered with metal.

Lateral and Vertical Clearances: Clearance between plate and

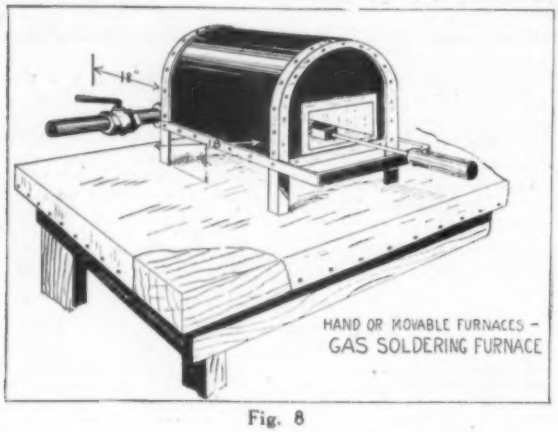


Fig. 8

unprotected combustible material above, and at sides, front and rear should conform to the following minimum requirements:

Above	48 inches
Sides, front and rear	18 inches

If combustible material at sides and rear is protected with ¼-inch asbestos covered with sheet metal to a point 18 inches above burners, clearance at sides and rear may be reduced to 6 inches.

If combustible materials at sides and rear are protected with ⅛-inch asbestos covered with 4 inches of hollow tile to a point 18 inches above burners, clearance at sides and rear may be reduced to 2 inches.

Gas Connections: Gas connection should consist of an iron pipe.

INSTALLATION OF STATIONARY FURNACES
Without Masonry Setting and Unlined (Fig. 9)

Ventilation: Rooms containing Medium Furnaces should be provided with adequate means of ventilation either in ceiling or wall above furnace.

Lateral and Vertical Clearances: Clearance, between furnace and unprotected combustible materials above and at sides, front

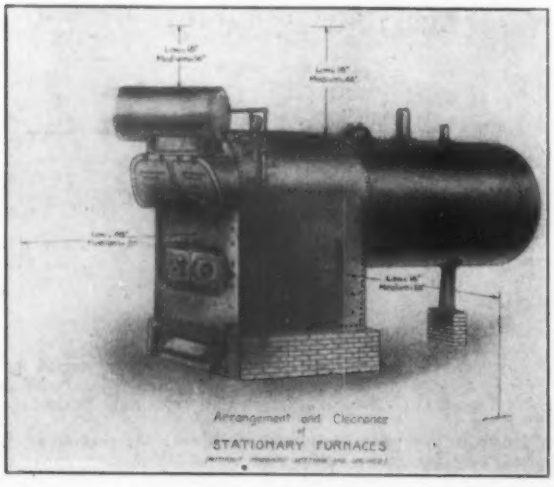


Fig. 9

and rear, should conform to the following minimum requirements:

	Grade of Furnace Low	Medium
Above	18 inches	48 inches
At sides and rear	18 inches	36 inches
In front	48 inches	96 inches

Metal Breeching or Smokepipe: Clearance between metal breeching or smokepipe and unprotected combustible materials, except where passing through floors or roof (see Figs. 13 and 14), should conform to the following minimum requirements:

	Grade of Furnace Low	Medium
Above	18 inches	36 inches
At sides	18 inches	36 inches

Metal Stacks: (See Figs. 12 and 13.)

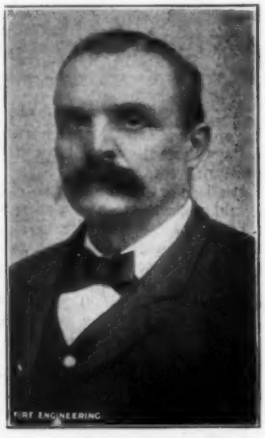
(To be continued)

Father of Pittsburgh's Chief Dies

Captain Leonard Smith, eighty-five years old, father of Richard Lee Smith, chief of the Pittsburgh Fire Department and himself connected with the Bureau of Fire of Pittsburgh for more than forty years, died at his home 1201 Woodburne, Brookline, on Tuesday March 30th, 1926.

Captain Smith was a Civil War Veteran. When about nineteen years of age Captain Smith enlisted in the Twenty-Eighth Regiment, Pennsylvania, and was assigned to Banks Division in the Army of the Potomac. He first saw service at Boliver Heights, and was in all the battles in which the division was engaged.

After Gettysburg his command was transferred to Sherman's Army; Captain Smith was in the Atlanta campaign, and marched with Sherman to the sea. He was wounded twice—once at Rocky Face Ridge, near Resaca, Ga., and again at Chancellorsville.



The Late Captain Leonard Smith

He entered the service as a private and mustered out as a sergeant in July, 1865. After he was discharged he came home and in 1872 he entered the Paid Fire Department.

He previously had entered the Fire Department in 1858, joining the Relief Volunteer Fire Company when he was seventeen years old.

This Company was taken into the Paid Fire Department in June, 1871, which at the present time is known as Engine Company No. 4. Captain Smith served on this company as a hoseman until June, 1886, when he was promoted to Captain and transferred to Engine Company No. 14 on Neville Street at that time the finest engine house in the city.

In later years he was transferred to Engine Company No. 26 where he remained as Captain until he retired on pension, January 1st, 1906.

Captain Smith was born in Germany, October 8th, 1841, and came to this country when he was four years old. Captain Smith was a member of Colonel James C. Hull Post No. 157 G. A. R. He leaves his wife, Mrs. Jennie McElroy Smith, two sons, Chief Richard Lee Smith and Leonard Smith, Jr., three daughters, Mrs. May Heckel of Los Angeles, California, Mrs. Christina Gazzam and Mrs. George Fogel, both of Pittsburgh, and three grandchildren.

Funeral services were held on Good Friday, April 2nd, from his late home, burial being in Uniondale Cemetery. Six uniformed firemen, some of them veterans in the fire service, acted as pallbearers.

WILLIAM E. PATTERSON.

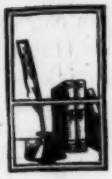
Change in Connecticut State Firemen's Date

The date for the 43rd annual convention of the Connecticut State Firemen's Association, according to advices received from D. W. Harford, secretary, South Norwalk, has been changed from August 17 and 18 to August 19 and 20. This change was effected at a meeting of the association's executive committee, the purpose being to transfer the dates so as to permit visitors at the convention to use the week end for sight-seeing in and about the points of interest in New London and vicinity.

The headquarters of the convention are to be at the Elks' Home, on Washington Street, New London.

West Winfield, N. Y., Purchases Apparatus—A contract for a 400-gallon pumper was awarded to the Foamite-Childs by West Winfield, N. Y.

WITH THE EDITOR



Dangers in Musters. The season for fire department parades and musters will soon be at hand.

A word of caution in connection with these will be timely.

Rather than diminishing through the adoption of motor fire apparatus by departments throughout the country, the practice of various associations bringing together at their conventions motor fire apparatus from the towns which are included in the membership is becoming more general.

It is not uncommon to see at a county firemens' convention as many as a hundred pieces of apparatus in line, drawn from the towns in that county alone.

Frequently prizes are given for the department having the largest number of trucks in line, or the largest percentage of enrollment of their department on hand.

And this is just where the danger lurks.

If the practice continues to grow there may be a time not far distant when, during the period of a local convention, all of the apparatus within the territory covered by that convention will be concentrated within the convention town or city and a large fire will occur in one of these towns. Picture what would happen to this town when it is stripped of all apparatus as well as experienced firemen!

Of course, those in favor of mustering apparatus at conventions may say that a large fire has never occurred due to the apparatus being absent. It must be remembered that this practice is only now becoming general and the fact that no large fire has resulted through the stripping of a town of its apparatus is no assurance that such a fire is not going to occur. As a matter of fact, each succeeding year increases the likelihood of such a disaster.

It is mighty nice to have a department display its pride and enthusiasm by coming out in full force to a convention, bringing all of its apparatus with it, but isn't such a department violating the public trust by just such a procedure?

The citizens of a town, knowing the enthusiastic work of the firemen, naturally sense a feeling of security and in the event of an entire department going to a convention will make little or no provision for carrying on the work of the men while they are absent.

Furthermore, the absence of the apparatus is a condition which cannot instantly be remedied by those remaining in the town in the event of a large fire.

This is a subject which deserves serious thought of every volunteer fire company, and is a condition which should receive immediate attention. It's too late to save the water after the pitcher is broken!

Bleeding the Department. Despite all the emphasis placed by fire protection organizations in this country on the urgent necessity of properly manning departments, it is most surprising that a large city the size of Des Moines should reduce its already limited force by 18 men in order to save a little money in the city budget.

It appears that there is a reduction of $200,000 in the city income this year and in order to provide for reduced funds various curtailments were made in the city maintenance expenses. Naturally the fire department came in for first attention. No doubt some local politician has passed a fire station some time or other and saw the men sitting around waiting for an alarm. He figured that if the members had any time at all between alarms to sit down that the fire department is over-manned, and immediately jumped at the conclusion that a good way to save money would be to reduce the manual strength of the department. Unfortunately there is this type of individual who would be in favor of reducing the strength of even an army at the front if any of the men happened to be resting in the trenches and not fighting. He never takes into account the fact that the size of the department is determined by the maximum job it will have to face some time or other and not by the minimum task.

The Des Moines fire department was not over-manned; in fact, it was under-manned if anything. And to further reduce the strength of the department by releasing 18 men is a serious move.

Not only does it reflect the distorted opinion of the city officials as to the size of task the fire department has on its hands but it is setting a precedent which may be followed hereafter, namely, to look to reductions in fire department personnel when it is necessary to save money to meet decreased city revenue.

One of the pitiful incidents in connection with the Des Moines affair is the discharging of two men who have served the department faithfully for over 18 years and 17 years respectively, and who were within two and three years of attaining their pension. As it is, these men who have served the city so long will now be thrown upon their own resources in their advanced years and without the pension which they have so justly earned. It is most unfortunate that a city the size of Des Moines should be in the grasp of politicians so short-sighted as to make a drastic move of this nature which

can only result in harm both to the city and to the residents thereof. It leads one to believe that Civil Service as instituted in some sections of the country is still far from being perfect; also, that faithful service is not appreciated when it is brought for judgment before the average run of politicians.

Arson and the Goat. The average citizen when asked what he thinks about the increasing evidence of arson fires will probably remark that he is "not worrying about such fires because they are 'set' for the insurance money and the only one that suffers from them is the insurance company."

Unfortunately this is not the case.

All who carry insurance suffer because the loss in any particular territory determines the insurance rate for that territory. If there is a heavy loss by fire due to arson then the rate is proportionately increased and those who carry insurance for honest purposes suffer from the increase. On the other hand the city or town itself suffers. Every building burned means just so much taxable property ruined and therefore a proportionate reduction in taxable property. Expenses of a city do not fluctuate readily and if there is a heavy fire loss with great destruction of taxable property, the tax rate on the remaining property must be raised to take care of such loss.

Those fully familiar with the arson situation are very much alarmed about its apparent rapid growth. Insurance authorities are beginning to recognize that arson is increasing in its scope and that a larger and larger proportion of fire losses are directly chargeable to incendiarism.

"Art" Espey, the cartoonist-member of the Elmira,

New York Fire Department, well expresses the situation in the sketch herewith.

Arson has attained the position where it is about to get the Nation's goat.

Murphysboro Now Model City

In the annual report of the work of the fire department of Murphysboro, Ill., Chief Albert Herring stated a better city existed there today than prior to the time when it was visited by the cyclone. About ninety per cent of the new homes have been rebuilt with fireproof shingles and the flues have been constructed from the ground up. The National electric code is being used to govern all wiring installations, and four-inch water mains are being replaced with the six-inch size.

The fire department has taken up salvage work along with

Fire Department of Murphysboro, Ill., May 1, 1926.

their other duties. They have a supply of water proof covers which they carry on all their equipment.

Chief Herring has appeared before several civic bodies and associations to have them pass resolutions to further the educational campaign conducted by the International Association of Fire Engineers and to assume an active role in the observance of Fire Prevention Week.

The department has been instrumental in caring for the poor at Christmas time, and they have distributed baskets of food, tons of coal and other incidentals. They had a party at which the children of the city were taken care of. All in all, Chief Herring has made a valiant fight to reorganize his city and department after the ravages of the cyclone.

Chief Herring of Murphysboro, is chairman of the central charities committee that is raising funds for the local hospital. Due to the cyclone, the hospital treated 320 cases including fifty plaster cast cases, 180 wounds and forty-five cases of reduction of fractures.

Dominion Fire Prevention Association Meets

The annual meeting of the Dominion Fire Prevention Association took place at the Chateau Laurier, Ottawa, Can., on April 29 and 30, and the annual conference of the Association of Canadian Fire Marshals met on Wednesday, April 28, at the same place, during the Fire Prevention Association's meeting. At the Fire Marshals Conference a feature was a report in person by Chief James Armstrong, of Kingston, Ont., president of the International Association of Fire Engineers, on the activities and work of that body during the year, and its plans for the future.

Among other important committees reporting at the meeting of the Dominion Fire Prevention Association was that of the Technical Committee on the Combustibility of Roofing Materials. This was in the nature of a progress report, and the committee at the suggestion of Chief Armstrong was asked to test and report on the combustibility of all material used in building.

Warrant Out for Arrest of Ex-Chief Weller

According to word just received from Chief of Police at Medina, N. Y., warrants have just been issued for the arrest of former Fire Chief F. T. Weller, of that city, on charge of petit larceny.

Reports have reached FIRE ENGINEERING to the effect that Weller has been securing sums of money from chiefs in neighboring cities under questionable circumstances.

Ex-Chief Weller was head of the Medina department up to April 1, last.

New Chief for Vincennes, Ind.—Otto G. Evans is the new chief of the fire department at Vincennes, Ind.

Hamiltion, O., to Acquire Pumper—Within ninety days, Hamiltion, Ohio will receive two 1,000-gallon Ahrens-Fox pumpers.

Milford, Conn., Inspecting Buildings—Chief Lewis F. Stowe of Milford, Conn., commenced the annual tour of inspections of the business places in that city. Records of the conditions are maintained in a card index at headquarters.

QUESTIONS AND ANSWERS

Conducted by FRED SHEPPERD, B. Sc., M. E.

"He that questioneth much shall learn much"—BACON

NOTE—Readers of FIRE ENGINEERING are invited to send in questions, which will be answered in the order received. Names are omitted from questions unless otherwise specified.

"False" and "True" Questions

To the Editor:

Will you kindly print in FIRE ENGINEERING the following questions, given in a recent examination for the grade of lieutenant in the San Francisco Fire Department, and the answers thereto.

Very respectfully yours,
F. N.

Question: You are working on the roof of a seven-story building and the line bursts between the fourth and fifth floors. You must adopt the best one of the following three courses of action. Underline the word True opposite the best course to take. Underline the word False opposite each of the other two courses of action. *Read all of this question carefully before you answer it.*

1. True, False. Shut off the water, lower the damaged line of hose to the ground, disconnect it from the fire hydrant, and return it to the Corporation Yard. Attach a new line of hose to the fire hydrant. Elevate this new line of hose to the roof. Then turn on the water and put the new line in service.

2. True, False. Shut off the water. Disconnect the line on the ground as near the building as possible and put two (2) new sections into the line at this point. Pull the line to the roof, remove the bursted section, reconnect the line and order the water turned on.

3. True, False. Shut off the water. Disconnect the line on the ground as near the building as possible and put one (1) new section into the line at this point. Pull the line to the roof, remove the bursted section, reconnect the line and order the water turned on.

Question: In responding to an alarm for a fire in a rag warehouse it is found that the fire is on the fourth floor which is heavily stocked with baled rags. Many of the rag bales are burning. Below are listed several right steps and several wrong steps which could be taken. Underline the word True before each step which should be taken. Underline the word False, before each step which should not be taken.

4. True, False. Open up the rag bales on fire before applying water.

5. True, False. Use as little water as possible to extinguish the fire promptly.

6. True, False. Open up the floor to relieve it of the excess weight of water.

7. True, False. Use fire pails instead of fire hose.

8. True, False. Throw the wet rags into barrels and remove them.

Question: You arrive first at a fire in a five-story Class C apartment house at two o'clock A. M. Each of the various apartments is occupied. You locate the fire in a room in the basement which contains the gas meters for all the various apartments. Underline the word True, before each of the following steps you should take. Underline the word False before each of the following steps you should not take.

9. True, False. Arouse the occupants and get them out.

10. True, False. Lead to the seat of the fire with the streams and await results before calling for additional help and apparatus to extinguish the fire.

11. True, False. Send to the gas company, to have their men shut off the gas supply.

12. True, False. Ventilate the building while advising the occupants of the danger.

13. True, False. Open the main and rear entrances for the occupants to escape.

14. True, False. Place a ladder to the fire escape for the use of the firemen and the occupants.

Question: You are called to a wharf fire and find a box containing stick phosphorous in metal containers, some of which containers are defective, causing the sticks of phosphorous to ignite and set fire to the sawdust packing in the box. Underline the word "True" before each of the following steps by which the fire can be extinguished. Underline the word False, before each of the following steps which would not extinguish the fire.

15. True, False. Apply a chemical fluid.

16. True, False. Submerge the box in a barrel of water and leave it there.

17. True, False. Spray the box lightly but for several minutes with water.

18. True, False. Cover the box completely with dirt.

Question: 19. True, False. In responding on a Box Alarm late at night, the first company to arrive finds an electric trolley broken and dropped to the street pavement and caught around the rear wheel of an automobile. Men should be stationed on each side of the break to warn the people of the danger. The truck company should raise the ladder to the trolley span wire close to the broken wire, and the man should ascend the ladder, with his hands incased in rubber gloves to cut the trolley wire close to the span wire with the aid of insulated wire cutters.

Question: 20. True, False. If there is a fire in a hat and cap factory where shoddy material is used, the damaged shoddy should be placed in metal cans or removed to the street; the damaged goods should be placed to one side in order to inspect the floor; handling same goods twice should be avoided; and it must be sure that no fire is covered or thrown to one side.

(NOTE: The remaining questions and the answers to them will be continued in subsequent issues of FIRE ENGINEERING—EDITOR.)

Answer. Due to local conditions, and local practices, in some cases it has been found necessary to qualify the answers as given.

In answering these questions on examination, however, no such qualification should be included. The question should be answered either false or true, and no comments added. Some of the questions, which are purely of a local nature, have not been answered as no information is at hand to make an intelligent answer possible.

1. False.	6. True.
2. True.	7. False.
3. False.	8. True.
4. False.	9. True.
5. True.	10. False.

11. True. This question is answered "True" on the assumption that you do not carry tools for shutting off the gas. Many large departments carry gas shut-off tools and are in a position to do this work themselves. If your department carries such appliances, and makes it a practice of using them, then the question should be answered "False."

12. True.	17. False.
13. True.	18. True.
14. True.	19. True.
15. False.	20. True.
16. True.	

Factors for Changing Hose Sizes

To the Editor:

In the June, 1923, issue of THE FIRE ENGINEER page 205 there is an example using the factor 0.08 for changing 1½-inch hose to the equivalent of 2½-inch hose.

In "Simplified Fire Department Hydraulics, page 71 problem 3 the factor 0.074 is used. Which of the two is correct? How do you get 2030 when dividing 150 by 0.074 in the same problem.

Also problem 3, page 69—we do not obtain 9083 for an answer.

Kindly explain the above in an early issue of your journal.

Sincerely yours
L. C. G., Fire Dept.,
Minneapolis, Minn., February 12, 1926.

Answer: In some cases we have used 0.074 and in other cases 0.08 when reducing 1½-inch hose to 2½-inch. Where 0.08 is employed it merely gives an approximation, the other figure being the more correct.

As friction in two lengths of hose of the same diameter may vary as much as 50% due to the condition of the lining of the hose or to the construction of the hose, approximations of this sort do not appreciably effect the result and this is the only excuse for different figures to be used for the same purpose.

As noted above, the factor 0.074 is the more correct of the

two and is the one which should be employed where precise figures are desired.

Now in dividing 150 by 0.074 we actually get 2,2027 but where long lengths of hose are secured we usually figure on working with even numbers and instead of using 2,027 feet we approximate it and make it 2,030 feet. The resulting error is indeed minor and may be neglected.

Throughout "Simplified Fire Department Hydraulics" you may find discrepencies of this type and it is due to one of two things: Either round numbers are taken to simplify the operation or actual errors are made in making the calculations by slide rule instead of by long hand.

The latter is the case in problem 3 page 69 where in dividing 100 by 0.011 we get 9,803 instead of 9,090, the correct figure.

Smoke Masks and Goggles

To the Editor:

I am writing to secure a little information on smoke masks.

The point in question: If you do not breathe smoke, will it cause your eyes to water.

One of our companies is supplied with masks containing goggles, while the other has marks without goggles. Which is the better and why?

Very truly,
J. McD.

March 28, 1926.

Answer: The above was submitted to Dr. J. Rice Gibbs, inventor of the "Dontfear" Smoke and Fume Respirator for an opinion on the subject. His answer follows:

"The eyes are directly affected by smoke and smoke gases and a smarting sensation is felt in all smoke fumes, but only a few of those encountered are extremely painful, such as arsenic from burning paper factories or warehouses, fresh pine woods, or cresosote. Goggles are not generally used by firemen, as an unobstructed vision is a necessity for personal safety. The "DONTFEAR" is a quickly removable and replaced respirator; is not fitted with goggles, but airtight goggles may be bought and used with all small type respirators.

Testing Fire Alarm Signal

To the Editor:

Will you please settle the discussion going on in our fire company as to how often the fire siren should be tested? This has developed into quite a problem.

Yours truly,
L. T. L.

Answer: Tests of a fire alarm system can not be made too often in order to make sure that the system is in operative condition. In a town depending on a siren for the sending in of an alarm, a good plan would be to sound a test call at say seven in the morning and at noon. If the early morning call is not feasible, test the system at noon. Many of the people in your town will think that it is a courtesy that the department is extending to the public and they will accept it as one of the customs of the town.

In the event that a neighboring town sounds some signal at twelve and it is feared that it might interfere with the signal in your town, move the test call to some other hour that will be free from outside signals and will, at the same time, be accepted as some sort of a time signal.

Do not, should you adopt the plan of having a daily test call, sound the signal at or about a certain time. Set a certain hour and live up to it religiously—otherwise there will be times when the signal will be mistaken for a fire alarm.

Former President of National Board Dead

Henry William Easton, one time president of the Liverpool and London and Globe Insurance Company of New York and a former president of the National Board of Fire Underwriters, died at the Great Northern Hotel, New York city, where he had lived for the past two years.

He was born in England, and in 1878 came to the United States; soon afterwards he became naturalized. For many years he was manager of the New York branch of the English company and then was elected president of the New York corporation. Mr. Easton was also president of the Globe Indemnity Company, and the Factory Insurance Company. For the past ten years he was retired from active business. Two years previous, his wife died. He was a member of several clubs and is the author of a novel published in 1901.

18 FIREMEN OUSTED TO SAVE DES MOINES CITY EXPENSES

Reduction of $200,000 in City Income Cause for Action—One With 17 Years' Service Record Removed

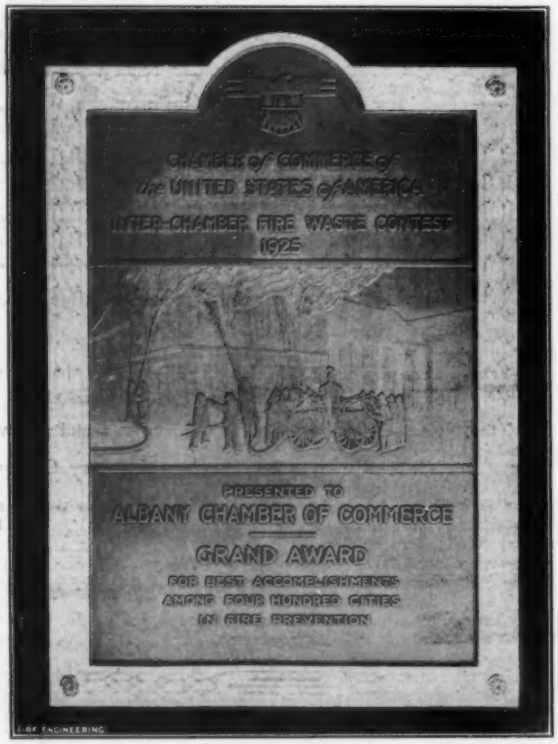
DUE to a reduction of $200,000 in the income of Des Moines, Ia., for the fiscal year, eighteen firemen, including one who had but three years to serve before being eligible for a pension, were dropped from the city payroll. The city availed itself of a legal clause which permitted it to reduce the city force whenever it was deemed necessary.

Both the Des Moines Fire Fighters Association and the Argonne Post of the American Legion will conduct organized fights against this procedure. Eleven of the men are ex-service men and their reinstatement will be argued on the grounds of the soldiers preference section of the city service law.

A petition has been circulated among the business men by an ex-fireman advocating the plan of doing away with the vacations this year instead of reducing the fire force in order to meet the reduction in the city's income.

Many of the discharged men have filed petitions of appeal with the city clerk, and the stage is being made ready for a keen legal battle. According to the city's law, it is necessary for the discharge to contain a detailed statement as to why the one in question was released from the service.

When the matter was brought before the Iowa Inspection Bureau as to the effect this move would have on the insurance rates of the city, it was stated that for the time being the rate would be unchanged. It would be necessary for evidence to be brought that the reduction in the force impaired the efficiency of the fire department.



Plaque Awarded to Albany, Ga., by Chamber of Commerce

This is a photo of the plaque which was awarded to Albany, Ga., by the National Council of the Chamber of Commerce on May 10 as first prize in the 1925 Inter-Chamber Fire Waste Contest. Similar trophies of smaller design were awarded to Portland, Ore., Long Beach, Cal., and Battle Creek, Mich. The Albany fire department is in charge of Chief Brosnan, and the presentation address was made by Hon. Clifford Walker, governor of Georgia.

Mobile, Ala., Change Uniforms—The firemen of Mobile, Ala., have changed to the khaki colored uniforms for summer wear.

FOUR-ALARM FURNITURE BLAZE SPREADS THROUGH ELEVATOR SHAFT

Big Fire in Elizabeth Confined to Building of Origin—Owner Donates to Department's Pension Fund in Appreciation of Work

ELIZABETH, N. J., suffered a four alarm blaze in the early morning hours of April 8, when the Frick Furniture Company's plant at 921-23 Elizabeth Avenue, caught fire from an unknown cause, starting in the cellar. The first alarm came in at 8:01 according to Chief August Gerstung, but apparently the fire had been burning some time before, as when the first companies arrived the flames had spread from the cellar to the fourth floor, via the elevator shaft. On his arrival Chief Gerstung immediately sent in a second alarm, and quickly followed it with a third and fourth, summoning 95 men and three Seagrave pumpers, two American-LaFrance pumpers, one American-LaFrance steamer and two truck companies.

Chief August Gerstung, Elizabeth, N. J.

There were four double and two single hydrants in use, spaced about 400 feet apart, with pressure of 25 pounds.

Fourteen engine streams were thrown, the nozzles used being of 1¼-inch size. Some 8,000 feet of hose was laid and the department also brought into service two turret pipes, with 1¾-inch tips.

With such a heavy start the fire gave the department a hard tussle, and it was not entirely extinguished until 3:57 p. m. The structure involved was four stories in height, of brick, with no partition walls, and 44 x 98 feet in area. It was built in 1907, thus having stood 19 years. The fire was confined to the building of origin by the fire department, and so well pleased was Mr. Frick, of the Frick Furniture Company, that he donated $100 to the pension fund of the department, "for good work done at the fire."

Fire Damages N. Y. Repair Shops

The repair shops of the New York Fire Department furnished a recent third alarm blaze; it caused about $15,000 damage to two floors of the building and their contents.

The cause of the fire is still a matter of much conjecture. The last mechanic to leave the shops that day departed at 4.30 in the afternoon, leaving the premises in charge of a veteran watchman.

The building is four story brick, 200x100, on the northeast corner of 56th street and 12th avenue, several hundred feet from the bulkhead of the Hudson River. Directly across the street from the shops is one of the city's incinerators, operated by the Department of Street Cleaning This plant emits considerable sparks from its funnel and the impression prevails that perhaps some of the sparks entered an open window of the shops and started a fire in the wheelwrights on the second floor. The night-watchman stated that this was not possible, since he closed all windows at five o'clock.

The fire was first tackled by the watchman, with water buckets. He yielded in a few minutes and pulled the special signal box in the building, only to retreat to the street and pull the public alarm box within two minutes. Battalion Chief Charles Duane sent a second and a third alarm successively and quickly.

The fire gained rapid headway among the shavings and the dust of the wheelwrights and communicated through the old oil-soaked floors to the paint and varnish rooms above. There is hardly a fireman among New York's 6,000 members who does not know the shops inside and out. Everyone of them has been there at some time. Consequently, the fire was tackled with a prior knowledge of the structure and the firemen under Chief Kenlon and Deputy Chief Dougherty battled like Trojans.

Fortunately, the flames did not communicate with any of the pumping engines on the ground floor. The machines and the lathes on the ground floor were drenched, but beyond that there was no damage.

Deputy Chief Richard J. Marshall, in charge of the Shops, was summoned from his home and he immediately started an investigation. Other than some temporary inconvenience, the operation of the shops was not materially retarded.

The Fire Department Shops were built twenty years ago for horse drawn apparatus. The building was never designed for motor engines and it is badly crowded, due to the accidents to apparatus attributable to the congested traffic conditions in New York these days. It is conservatively that there was $1,000,000 worth of apparatus and machinery in the building at the time of the fire. In the language of Deputy Chief Dougherty—"this was a well stopped fire."

W. J. DALY.

WHAT'S BURNING

From reports covering the United States and Canada, the estimated losses by fire during the week ending May 7, 1926, aggregated $4,360,200, as compared with $5,588,000 for the corresponding week in 1925. The total is derived by adding to the amount in the list given, which includes only those of $25,000 loss and over a sum equal to thirty per cent of that amount, statistics showing that the smaller fires average about that proportion of the larger. Losses for the week ending May 14, follow in their right order.

The figures published in this list, compiled from telegraphic reports of fires occurring during the weeks, are based on estimates made at the time, which are necessarily hurried and are subject to latter investigation and consequent correction. Taken as a whole, however, they give an approximately correct view of the losses incurred. The figures represent loss in thousands.

FAIRMOUNT, ILL.—Three business establishments..... 30
KNOTTSVILLE, KY.—St. Williams Parochial School destroyed 40
WATER VALLEY, MISS.—Yocona Cotton Twine Mills owned by Wagner & Co..... 100
CENTERVILLE, MISS.—Business block destroyed..... 85
ST. JOSEPH, MO.—Warehouse of Grain Belt Mills destroyed.. 100
WOODLAWN, PA.—Woodlawn Hotel destroyed..... 165
OGDEN, UTAH.—Plant of Superior Canning Corporation..... 25
REEDSBURG, WISC.—Farm buildings on John Ende farm.... 25
BAKERSFIELD, CALIF—Reservoir of Standard Oil Company.. 250
WATERBURY, CONN.—Building at High and Cosset Streets.. 40
EAST WATERBORO, ME.—Plant of Independent Ice Company of Boston 200
MONTAUK, L. I., N. Y.—Montauk Inn destroyed..... 85
CHARLOTTE, N. C.—Branch factory of Michelin Tire Company 40
DOVER, MASS.—Residence of O. N. Purdy, Jr., destroyed..... 250

Fighting the Four Alarm Furniture Warehouse Fire in Elizabeth, N. J.

MORRILTON, ARK.—Property of Pierce-Young Lumber Company 35
LEWES, DEL.—Pier of Lewes Fisheries Company and adjoining property 60
ELLENDALE, MINN.—Garage of Carl Aronson..... 30
REELSBORO, N. C.—Sawmill of E. Carolina Lumber Company destroyed 40
URBANA, OHIO.—Business block in western section..... 25
SHENANDOAH, PENNA.—Waters Storage Warehouse, Market Street, destroyed 25

WILKES-BARRE, PA.—Washery of Hillside Coal & Iron Company destroyed 60
MONROE, WISC.—Building occupied by Green County Automobile Company 25
PIEDMONT, MO.—Building occupied by Sam A. Lee & Company and two adjoining buildings 40
BRADENTOWN, FLA.—Several establishments in industrial section 40
LEBANON, PA.—Concentrator plant of Bethlehem Steel Company 85
BLOUNTSVILLE, ALA.—Girls dormitory of State Secondary School 25
SANTA ROSA, CALIF.—Winery of Mrs. Marie Babbino destroyed 25
BOUTON, IOWA.—Store of J. E. O'Malley and adjoining building 40
BEREA, KY.—Several Business establishments 30
PADUCAH, KY.—Reglesberger Motor Company 35
WARREN, PA.—Shipping room of Piso Medicine Company 25
RIVER FALLS, WISC.—High School & Grade School Buildings 120
HAYWARD, WISC.—Building owned by John Moreland 25
HILLSVILLE, PA.—Property of the Grasselli Chemical Company 25
ASBURY PARK, N. J.—Two residences on Deal Lake Drive .. 25
BRANFORD, CONN.—Rosenthal Building on Main Street 55
ONEONTA, ALA.—Several business structures 75
QUANTICO, VA.—Marine Barracks Storehouse 60
CHICAGO, ILL.—Tauber Furniture Company, 6217 Cottage Grove Ave. 85
CHICAGO, ILL.—Apartment Hotel at 16 S Wabash Avenue .. 40
BOSTON, MASS.—Building at 110 Lincoln Street 85
WAYZATTA, MINN.—Eight buildings destroyed 40
CLEVES, OHIO.—Public School Building destroyed 25
CONEMAUGH, PENNA.—Plant of Conemaugh Lumber Company destroyed 40
AUGUSTA, ME.—Building occupied by Colonial Picture Theatre 45
NEWARK, N. J.—Morris Manufacturing Company 60
DANVILLE, VA.—Robertson Building in business district 40
E. PITTSBURGH, PA.—Building at 601 Braddock Avenue 25
VANPORT, PENNA.—Plant of Gloninger Brick Company destroyed 40
DICKSON CITY, PA.—General store destroyed 60
NEWARK, N. J.—Building at 199 Market Street 25
BOONTON, N. J.—American Standard Railway Fuse Company. 100
CLEVELAND, OHIO—Appalachian Lumber Company 115

Fought Hotel Fire from Scows in River

In fighting this fire in the Windsor Hotel, Mount Vernon, Wash., pictures of which are furnished through the courtesy of Chief Joseph Schlauser, two pumpers were run onto scows and water was drafted from a river. The building was of brick and tile construction, and the blaze started in the boiler room. As the basement was filled with dense smoke the firemen were unable to get at the seat of the fire, and it quickly spread to the rest of the structure. Four American-LaFrance and Stutz pumpers were in use in fighting the fire. One two-way deluge set; one 2½-inch gate valve and five smoke masks were used by the fire department. The loss on building, valued at $102,000, was $63,500, and on contents valued at $32,000, it was $12,000.

ROCHESTER, N. Y.—Plant of Dominion Feld-Spar Corp., destroyed 65
TONTOGANY, OHIO—Elevator of Royce-Coon Grain Company destroyed 40
MINNEAPOLIS, MINN.—Apartment building at Nicollet & Oak Grove Sts. 50

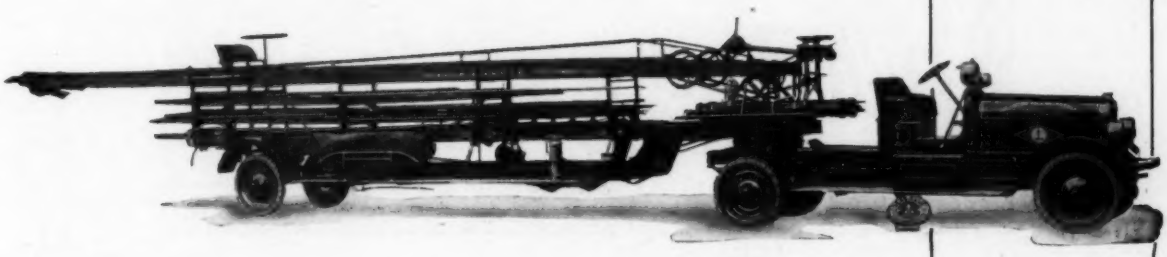
From reports covering the United States and Canada, the estimated losses by fire in the week ended May 14, 1926, aggregated $7,280,000, as compared with $724,100 for the corresponding week in 1925:

RAYLAND, OHIO.—Three houses and general store destroyed. 50
WILLIAMSPORT, PA.—City market house destroyed 50
SAN ANTONIO, TEXAS.—Warehouse occupied by Alamo Paper Company 40
BURLINGTON, VT.—Barn on farm of U. A. Underwood, Appletree Point 80
DETROIT, MICH.—Building at 2614 West Warren Avenue occupied by several business establishments 50
RACINE, WISC.—Building and stock of E. Roberts, 308 6th Street 25
LARRABEE, IOWA.—Restaurant building 25
WATERBURY, CONN.—Several houses and stores 30
BEVERLY, MASS.—Clubhouse and cottages on Misery Island in Salem Harbor 80
LYONS FALLS, N. Y.—Schuetown Mill of Gould Paper Company 120
NEW BEDFORD, MASS.—Gunning Boiler & Machine Company property 25
BROOKLYN, N. Y.—Empire Apartments, Bedford Ave. & Pacific St. 80
NEWARK, N. J.—Whitty Hall, Market Street 25
GEORGETOWN, OHIO.—Five stores and Methodist Church destroyed 60
CHICAGO, ILL.—Adams & Franklin Building, West Adams Street 80
SAN FRANCISCO, CALIF.—College of Physicians & Surgeons 40
YARBO, ARK.—Several business establishments and residences .. 25
HENDERSONVILLE, S. C.—Two business houses on Main Street 40
WHEELING, W. VA.—Froelich & Wayman Furniture Store 60
JASPER, FLA.—Water and light plant destroyed 25
WOLF LAKE, ILL.—Business section and several residences 165
McCONNELL, ILL.—Business houses destroyed 25
CRISFIELD, MD.—Two mercantile buildings and church destroyed 210
MINNEAPOLIS, MINN.—Wing of Brooks Parlor Furniture Company 85
PARMA, MO.—Store of M. Kaufman & Son destroyed 25
SALEM, N. J.—Gaynor Glass Works, lower Broadway, destroyed 40
COWARD, ONT., CANADA—Mill of Temigami Timber Company 100
NEW KENSINGTON, PA.—Plant of Independent Brewing Co. 40
ALTOONA, PA.—Warehouse of Wm. Shoenfelt and Armstrong Building 25
GREELEYVILLE, S. C.—Property of Mallard Lumber Company 50
ROCK CREEK, S. C.—Warehouse of Southern Power Company 50
SOUTH PORTLAND, ORE.—Several freight cars in Rigby yard 40
DOVER, N. C.—Goldsboro Lumber Company plant 30
BIRDSBORO, PA.—Shoe factory of James O'Houlihan destroyed 80
LOWELL, MASS.—Building owned by Max Katz, Middlesex Street 40
GRANITE CITY, ILL.—Home and business houses comprising almost an entire city block 60
SPRINGFIELD, OHIO.—Malleable Iron Company plant 100
BALTIMORE, MD.—Wilkens Bros. Hair Factory 80
DORA, ALA.—Pratt Fuel Corporation 40
FRANKFORT, IND.—Cushwa Baking Shop and adjoining building 25
E. ST. LOUIS, MO.—Naptholine Plant of Certain-teed Products Co. 25
MONEY POINT, VA.—Three buildings of Eastern Cotton Oil Company 200
ATLANTIC CITY, N. J.—Jewelry shop, Atlantic Ave., near Carolina 60
WILKES-BARRE, PA.—Planing mill and 100 automobiles destroyed 80
CARYVILLE, FLA.—The Brown-Florida Lumber Company property 800
DANVILLE, VA.—Several business establishments, Main & Patton Sts. 400
EDMONTON, ALTA.—Plant of Great West Garment Company. 325
LOS ANGELES, CALIF.—Warehouse of Coulter's Dept. Store .. 25
RUMFORD, ME.—Strathglass block and adjoining property 40

(*Continued on page* 536)

New Foamite-Childs city service truck recently placed in service by the Utica, N. Y., Bureau of Fire, of which Joseph N. Sullivan is chief. On the driver's seat is shown M. DePhillips, delivery engineer of the Foamite-Childs Corporation. The equipment includes 238 feet of ladders, the longest being 55 feet when extended, special scaling ladders, Foamite hand extinguishers, and a number of tools and appliances. The motor is a Childs-Wisconsin oversized 6-cylinder.

In Use For More Than a Quarter Century



THE absolute dependability of *Seagrave Fire Apparatus* could be no more thoroughly exemplified than in the continued use and demand for the Seagrave Aerial Ladder truck. Equipped with spiral spring hoist these trucks have been in use in every section of the country for more than twenty-five years.

As further evidence of the value and dependability of this type hoist more are now in service and more are continually being sold than any other type.

It is a matter of record that during the past year more Seagrave Aerial trucks were sold than any other make. There can be but one reason for the popularity—all combined in the essentials of service, economy and satisfaction.

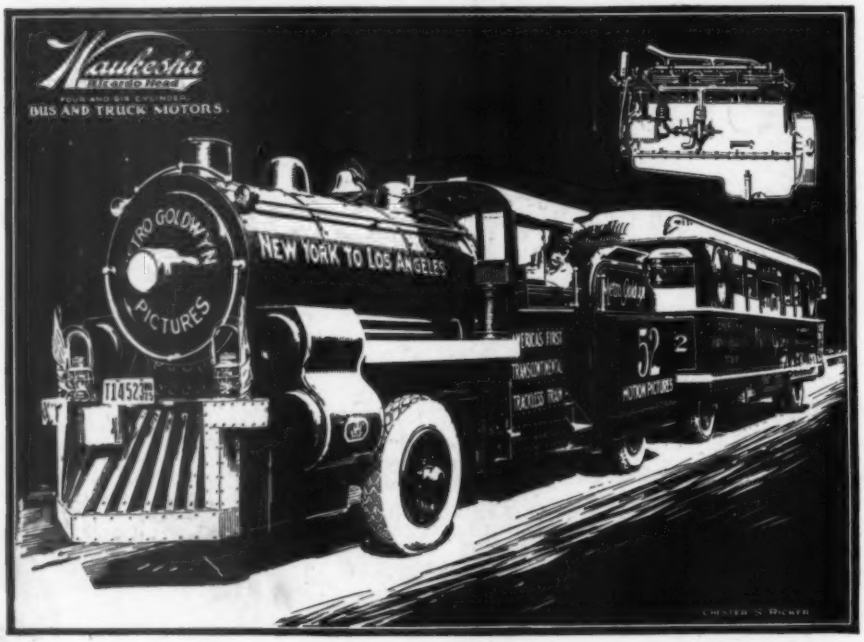
The SEAGRAVE CORPORATION

COLUMBUS, OHIO

BRANCH OFFICES

BOSTON, MASS.
NEW HAVEN, CONN.
PHILADELPHIA, PA.
CHICAGO, ILL.
DALLAS, TEXAS
SEATTLE, WASH.
BIRMINGHAM, ALA.
KANSAS CITY, MO.
PITTSBURGH, PA.
LOS ANGELES, CALIF.
SAN FRANCISCO, CALIF.

Locomotive of Metro-Goldwyn Train powered with Waukesha Engine.



Across The Continent And Back

Here is a 24,000-pound train that can make 45 miles an hour. Over all kinds of roads, irrespective of weather or season, it has been in every big City in the U. S. A. during the last six months, and is now touring Europe. No fire equipment service demands hundred mile runs over give and take roads or the hauling of heavier loads. That's why fire engines equipped with Waukesha "Ricardo Head" Engines give such satisfaction.

Fire Chief Paul Godesiabois of East Moline, Illinois, after testing one of our six cylinder engines on his 500 gallon pumper, said: "The first day we got it we pumped 743 gallons at 124 pounds pump pressure and the motor showed no signs of laboring." If you want to know more about them write for "Six Cylinder Book No. 3226," giving complete details.

FIRE EQUIPMENT DIVISION

WAUKESHA MOTOR COMPANY

Waukesha Wisconsin

Eastern Sales Office Aeolian Building, 33 W. 42nd Street New York City

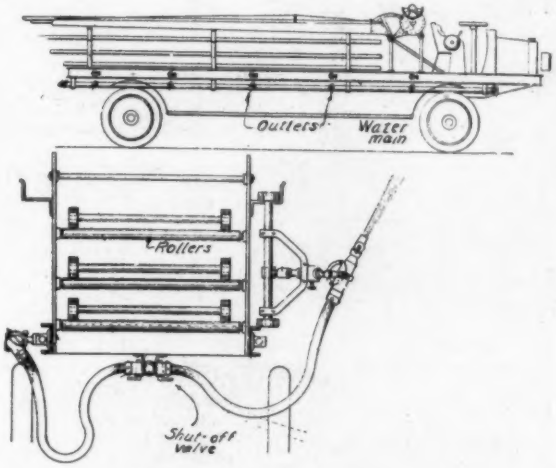
Recent Patents

Descriptions of Patents Recently Issued of Interest to Fire Departments—Fire Apparatus—Alarm Device for Automobiles

Design of Fire Apparatus

A patent (No. 1,577,607) has been issued to Jacob B. Blaw of Atlantic City, N. J., for his design of a fire apparatus (preferably ladder truck) with means attached for directing streams of water in the desired direction. One of the objects of the inventor is to reduce the confusion resulting at a fire from too many hose lines.

The upper portion of the illustration is the side elevation of an extension ladder truck having the new design attached



thereto. The lower section shows a transverse section of the device.

The chassis of the apparatus is provided with the usual pivoted extension ladder having suitable means for raising and lowering it. It is also provided with uprights having transverse supporting rollers, one above the other for sustaining the ladders. The general construction of the ladder truck does not hamper the installation of the device.

Arranged along the chassis is a water main having at intervals, lateral outlets adapted for connection with hose couplings and also respectively provided with shut off valves. This main is secured to the under side of the chassis by sustaining members, and the main is provided in the rear with a plurality of inlet nozzles adapted to be connected with hose couplings.

Fire hose nozzles are provided adjustably supported on the truck and connected by short sections of fire hose with the respective outlets. When the extension ladder is raised, one or more of the nozzle supports may be used on the ladder and thus it is converted to a water tower.

A frame is provided with two leg portions spread apart and having an adjustable clamp by which they may firmly take hold of the rungs of the ladder. From this it projects at a right angle. Secured to the frame is a head to which is hinged a strut having a clamp jaw at its free end. Pivoted in the head is the yoke which may be adjustable about an axis parallel to its length. A saddle in which the fire nozzle is clamped is hinged to the yoke. There would be one of the supporting yokes for each of the outlets.

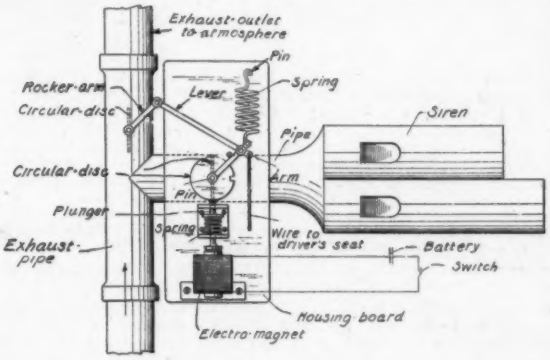
Alarm Device for Automobiles

A device which is intended to provide an alarm which operates by the exhaust gases and which is intended to prevent thefts of cars has been invented (patent No. 1,534,955) by Henry Horak and Karel Holoubek, residents of New York city. It is believed that his invention will prevent unauthorized tampering with the automobiles.

The illustration shows a plan view of the design with the exhaust gases circulating in the exhaust pipe in the direction indicated. A pipe is connected to the exhaust main at right angles and at the other end is connected to a siren. A circular disc is placed in the exhaust pipe and is secured to a rocker arm. The pin extends through the pipe and has a rocker arm attached to it. A lever is pivoted at two points and connects the arms as shown. A circular disc with a slot cut in it is secured by a pin under the rocker arm. The discs are normally held in the position illustrated by a spring which is secured at one end by a pin and at the other end is connected to an extension of the rocker arm. A wire is fastened to the extended portion and leads to the driver's seat or other convenient point. A plunger is held against the slotted disc by means of a bearing held in position by a spring. An electro-magnet is placed in the circuit with a battery and a switch.

All of the parts of the mechanism are mounted on a housing board. When the alarm is not in use, the exhaust gases in the pipe pass by the disc and out at the upper end to the atmosphere. Any tendency of the gases to pass into the horizontal pipe is prevented by the disc which has a good fit in the pipe. When it is desired to prepare the alarm for action, the wire is pulled until the slot is engaged by the plunger under the action of the spring. This turns the other two discs through angles of ninety degrees. The exhaust gases from the engine in the main pipe will be obstructed by the disc in that pipe and the horizontal pipe will offer a free passage to the exhaust on its way to the siren.

To make the device inoperative, the switch is closed. This completes the circuit and the electro-magnet attracts the extended portion of the plunger against the action of the spring which



releases the notched disc. The other two discs are then turned back to their normal positions by means of the spring and the siren is made inoperative.

Chief Rose Injured on Way to Fire

While responding to an alarm of fire on May 2, Chief Charles H. Rose, 67, veteran head of the New London, Conn., fire department and president of the Connecticut State Firemen's Association, suffered injuries that may result in the loss of Chief Rose's right leg. His fire car was struck by an ice cream truck owned by the Eastern Dairy Company. The chief suffered a compound, comminuted fracture of the right leg and was rushed to Lawrence hospital. It will be at least six months before the New London chief will be able to be about again.

T. F. MAGNER.

Progress Made in Hose Standardization

In the five years during which the work of the standardization of hose threads was carried on, more than 1,700 cities throughout the United States have converted the threads on the hose and hydrants to conform with the national standard.

The campaign for the conversion to a standard thread started in 1920. At that time, in the 8,000 protected cities and towns, there were about 1,000 that had their threads cut to the national standard specifications. During 1925, Massachusetts assumed an active lead in this work—about twenty-one municipalities in that state have rechased their fire department threads to this standard.

LIVELY DISCUSSIONS FEATURE N. F. P. A. ANNUAL MEETING

Changes in Electrical Code Vigorously Attacked—Oil Fires and Dust Explosions Among Subjects—Officers Elected

ONE of the best attended and most important conventions of the National Fire Protection Association (International) was held at the Chalfonte-Haddon Hall Hotels, Atlantic City, N. J., on May 10 to 13. This was the thirtieth annual meeting of the association and there were 508 delegates, which, it was said, broke all records for attendance.

In his annual address President Rudolph P. Miller declared that 6 per cent of the nation's fires in 1925 were caused by careless smokers.

"Other careless practices," he said, "added another 4 per cent., bringing the total number of fires due to carelessness to 10 per cent."

Mr. Miller, formerly Superintendent of Buildings in Manhattan, made a plea for stricter zoning restrictions, and asserted that fire hazards could be lessened by legislation limiting buildings in which dwellings and business places are combined. Records of the New York City Fire Department for a five-year period showed that 50 per cent of the city's fires were in buildings of this type, he said.

A number of important committee reports were considered and either disposed of or the committee ordered to further consider their subjects and report at next year's convention.

The report of the Committee on Electrical Installation Standards provoked discussion of nearly two hours. The committee recommended the use of non-metallic sheathed cable, and this was responsible for much difference of opinion among the speakers, some of them claiming that the standards of public safety would be lowered by the adoption of the committee's suggestion.

A minority substitute motion to delete the clause expressing approval from the report of the electrical committee was offered by Ralph Sweetland, of Boston, but was lost after a debate.

In precipitating the lengthy discussion, Mr. Sweetland said: "If you adopt this material, you will lower standards of public safety, and the standards of the national electrical code are none too high now. The situation warrants the adoption of better rules than are now in force to prevent electrical fire losses. The use of non-metallic material will increase hazards, especially in districts where there are no effective inspections of installations. Rules have been ignored in the past and will be in the future."

Delegates interested in the manufacture or the use of the material under attack, rallied to its defense, producing evidence that it had withstood laboratory tests of the most severe character. Also there were charges of commercialism hurled.

Another lively discussion was on the subject of oil fires. An ordinance was suggested to fix the minimum distance that shall be allowed between oil tanks.

It was pointed out at the convention that all steel tanks have proved an effective agency for decreasing the fire hazard of lightning. In the recent California oil fire, where $13,000,000 worth of fuel oil went up in smoke after a tank had been struck by lightning, the only tank left standing after the flames had died away was an all-steel tank.

Regulations designed to prevent and control dust explosions in starch factories, tentatively adopted by the National Fire Protection Association a year ago, were presented for final adoption by D. J. Price, representative of the United States Department of Agriculture, and chairman of the committee on dust explosion hazards.

There are 28,000 plants in the United States subject to the hazard unless the danger is recognized and precautions taken to prevent the occurrence of explosions. These plants employ 1,324,422 persons whose lives would be endangered, and manufacture products worth more than $10,000,000,000, which would be subject to damage by explosions and resultant fires.

At the election of officers Dana Pierce, president of the Underwriters' Laboratories, was chosen president of the association. Other officers elected for two years were: First vice president, Allen M. Schoen, Atlanta; second vice president, Frank C. Jordan, secretary, Indianapolis Water Company, Indianapolis; secretary-treasurer, Franklin H. Wentworth, Boston.

Albert T. Bell, of Atlantic City, N. J., was elected chairman of the executive committee, with Eugene Arms, Chicago; William H. Blood, Jr., Boston; Director of Public Safety George W. Elliott, Philadelphia; George H. Greenfield, Montreal; Sumner Rhoades, New York (3 years), and Hickman Price, New York (one year).

The nominating committee for 1927 comprises W. E. Mallalieu, New York, chairman; H. W. Forster, Philadelphia, and R. W. Hendricks, Chicago.

Meeting Considers Farm Protection

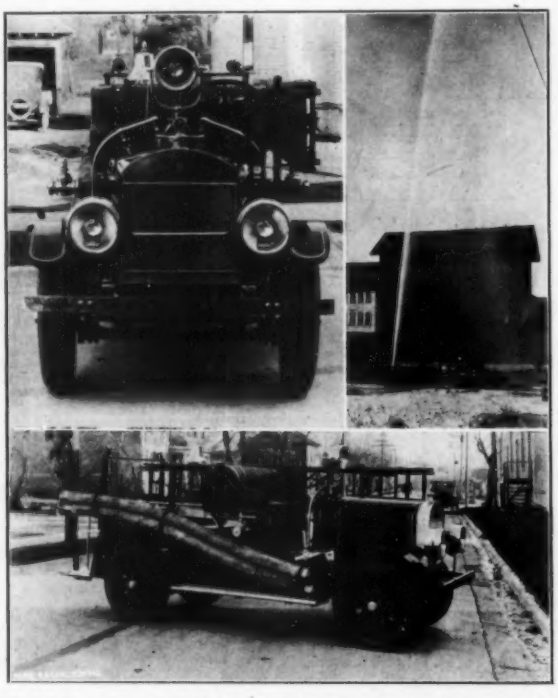
Under the leadership of the National Fire Protection Association, a meeting was held at the Chalfonte-Haddon Hall hotel, Atlantic City, N. J., on Tuesday, May 11, to consider the problem of farm fire protection. This conference was held in conjunction with the annual meeting of the association.

At this meeting there were representatives from the United States Department of Agriculture, American Society of Agricultural Engineers, American Farm Bureau Federation, Mortgage Bankers Association of America, American Agricultural Editors Association, The Farm Association, National Board of Fire Underwriters, Underwriters' Laboratories, Dominion Fire Prevention Association, Lightning Rod Manufacturing Association, National Association of Farm Equipment Manufacturers, Mutual Fire Insurance Association, Fire Equipment Manufacturers Institute, Association of Canadian Fire Marshals and the National Association of Mutual Insurance Companies.

The problem of fire protection for the farm has developed into such a vital problem that it is commanding the attention of many national organizations.

A Condensed Fire Truck

The fire truck shown in the illustrations herewith is quite an unusual piece of equipment. It was made for use in



Three Views of Combination Pumper and Hose Truck, Built Especially for Narrow Streets of a Japanese City.

Upper, left, front view. Upper, right, undergoing factory test. Lower, side view, showing short overall length.

Japan, the town receiving it having narrow streets and many sharp turns.

The specifications required an over-all length of 13 feet and a maximum width of 56 inches (over-all).

The tread of the machine as built is only 48 inches.

This combination pumper and hose car was built by the Stoughton Wagon Company of Stoughton, Wisconsin, for a Japanese municipality. It is possessed of a sturdy engine and pump, and at tests by the Wisconsin Inspection Bureau delivered 320 gallons per minute at 120 pounds pump pressure. One of the pictures shows a good stiff stream being delivered by the pump at factory tests, and before the body was placed on the chassis.

Protest Made Against Firemen's Work—The labor unions of Council Bluffs, Ia., made a protest against the city firemen doing work on the outside in their off hours.

BUFFALO

One of the strongest proofs of the real merit of Buffalo apparatus is the fact that chiefs are constantly of their own accord writing us glowing letters of praise of their Buffalo apparatus in actual service.

Every piece of Buffalo apparatus must be right before it leaves the plant —and every piece is fully guaranteed. You can't go wrong with Buffalo apparatus.

"Built to *Your* Order" Apparatus

is Making Good Wherever Placed in Service

because every piece of apparatus is designed by our experienced fire apparatus engineers in conjunction with the local fire officials to meet the specific requirement of the particular department or municipality making the purchase—and only the highest grade materials and workmanship go into the construction.

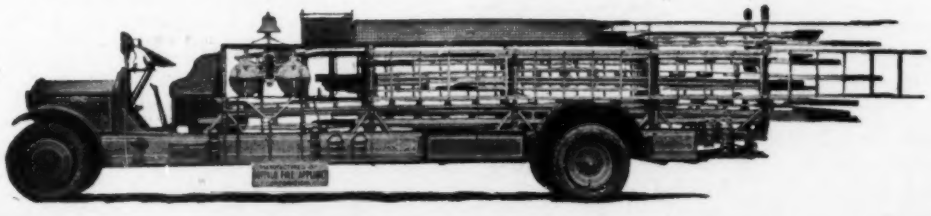
Every city, town or community selecting Buffalo apparatus is therefore certain to get dependable apparatus of just the type and size that will most effectively meet their own fire protection requirements.

Moreover, Buffalo Apparatus is economical. Our method of doing business and our large modern plant enable us to provide quality apparatus at comparatively low cost. This makes possible the immediate purchase of new apparatus with limited funds, or saves money that can be used to purchase other needed equipment or supplies.

May We Tell You More About Buffalo Apparatus and the Buffalo Plan?

BUFFALO FIRE APPLIANCE CORP.

General Office and Factory **44 Central Ave., Buffalo, N. Y.**



BUFFALO

Five, ten, twenty years from now Cheboygan will be just as proud of their Master Fire Fighter purchase

FOR time and hard service make little or no inroad into the efficiency of "Deluge." During the past year we have made tests on "Deluge" pumps in service for many years and find them still retaining their original efficiency and pumping their rated capacity.

You ask "why does the 'Deluge' Rotary Pump outwear so many others?" Because, "Deluge" Pumps are designed primarily to resist wear and corrosion. They maintain the same efficiency over a long period. Any capacity reading taken five, ten or more years after they have gone into service, will equal that taken at the acceptance test.

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The "Deluge" Master Fire Fighter invites close comparison in Pump, in Motor, in Chassis and in all details of manufacture, finish, painting, and completeness of fire fighting equipment. Write for photos or circulars of our various models, built in capacities from 300 to 600 gallons per minute.

"FORTIFY FOR FIRE FIGHTING"

THE
PROSPECT FIRE ENGINE COMPANY
Prospect, Ohio

The "DELUGE" *Master Fire Fighter*

OF INTEREST TO VOLUNTEER FIRE DEPARTMENTS

Drivers of Fire Trucks Are Liable for Damages

To the Editor:

Will you please explain as fully as possible just what the actual requirements of the law are in this state as to the responsibility and liability of the driver of fire apparatus.

All the surrounding villages including Lynbrook and Rockville Centre seem to have undergone a sudden upheaval over some new law, I believe, placing the liability wholly and solely upon the driver of fire apparatus in case of an accident, and there seems to be no way of getting around this condition.

It has caused the resignation of some of the drivers in the various departments, and in fact, some of our own drivers have threatened to resign as drivers, if this is really the specific requirements of the law. Just as soon as the fact is established that the driver of fire apparatus is wholly liable in the case of accident, I believe all of our drivers will resign.

If such is the case, I personally cannot blame them, for is it not enough that a man take the risk and chance that he does in serving a community as a volunteer fireman, but in addition has to be held liable, personally, for an accident, seems like a very narrow law and a badly distorted idea of voluntary public service.

I further understand that the law specifically states that the incorporated village or fire district cannot have these men insured against liability. It seems that such laws as these are a public menace, rather than a protection.

Awaiting your valued reply and thanking you for any assistance which you can give us in this matter, I remain,

Very truly yours,

N. Y.

Answer: The law referred to above is not a "new law" that a municipal corporation, meaning by that term a city, county, town or village, is not liable for the negligent or wrongful acts of its firemen while they are engaged in the performance of their duties. On the contrary, such principle of the non-liability of the governing power in the exercise of governmental or legislative authority is one of the oldest doctrines of our law.

It has been held over and over that the power to organize and regulate a fire department and otherwise provide for the prevention of and guarding against damage by fire is a legislative or judicial power as distinguished from a mere corporate power, and the failure of the corporate authorities to exercise the power to the full extent necessary to protect the citizens from such damage does not render the municipality liable to an action therefor. Thus, a city, town or village is not liable to a citizen for failure to establish and maintain waterworks, (Springfield F. & M. Ins. Co. v. Keeseville, 148 N. Y. 46; Taintor vs. Worcester, 123 Mass. 311), or for delay due to a balky horse (Robinson vs. Evansville, 87 Ind. 334), or for a leaky reservoir (Grant v. Erie, 69 Penna. St. 420), or where a city has cancelled a contract with a private water company (Sandusky v. Central City, 22 Ky. L. Rep. 256), or for failure to keep water works, pumps, pipes, plugs, hose, carriages, etc., in repair. Upon the same principle a municipality will not be liable for injuries caused by the wrongful or negligent acts of a fire department, or of the firemen employed therein while they are engaged in the performance of their duties.

Specifically, the municipality will not be liable for injuries to individuals upon the public streets due to bursting hose, sparks from an engine, or being run over, or otherwise injured through the negligence of firemen employed in the department.

O'Meara v. N. Y., 1 Daly 425.
Howard v. San Francisco, 51 Cal. 52.
Jewett v. New Haven, 38 Conn. 368.
Wilcox v. Chicago, 107 Ill. 334.
Greenwood v. Louisville, 13 Bush (Ky.) 226.
Hafford v. New Bedford, 16 Gray (Mass.) 297.
Alexander v. Vicksburg, 68 Miss. 564.
McKenna v. St. Louis, 6 Mo. App. 320.
Gillespie v. Lincoln, 36 Nebr. 34.
Freeman v. Phila., 13 Phila. (Penna.) 154.
Grube v. St. Paul, 34 Minn. 402.

This may be a somewhat difficult doctrine to grasp off-hand. Perhaps it has not been more clearly stated than in an opinion given in the case of O'Meara v. Mayor of New York (1865), 1 Daly 425, in the Court of Common Pleas. The plaintiff in that case was run down and severely injured by a fire department truck while standing on the sidewalk and it appeared further that an ordinance of the City of New York expressly forbade the drivers of fire apparatus to encroach upon the sidewalks. The court said:

"The fire department's existence was, and is, essential to the public welfare—to the protection of life and property, and the defendants, as an act of sovereignty, furnish it with such apparatus, and grant it such facilities as are most conducive of the effectual performance of the duties of its members, which, as we have seen, are established by law. The defendants are required, also, to appoint the members or firemen, and thus, both in reference to filling its ranks, and endowing it with means to be of use, they act in their legislative capacity. Aside from that, the duties to be performed by the firemen are not for the benefit of the defendants particularly. They are for the pecuniary benefit of the inhabitants of the city, as well as for their personal safety. They result in no benefit or advantage to the defendants, other than to individuals, and then, only when a loss or disaster is averted by their efforts. The powers exercised, therefore, by the defendants, in reference to the Fire Department, are conferred and employed exclusively for the public benefit, not for purposes of private advantage or emolument, and this is an answer to the plaintiffs' claim (The Mayor &c. v. Bailey, 2 Denio, 433; Lloyd v. The Mayor, &c., 5 N. Y., 369; Griffin v. The Mayor, &c., 9 N. Y., 456).

"The mere fact that the firemen had an engine in their possession by authority of the defendants, did not create the relation of master and servant under the circumstances surrounding the fact, and to which allusion has been made, any more than granting a license to a hackman, and thus authorizing him to drive his carriage over the streets of New York, would make him the defendant's servant and then liable for his negligent exercise of the privilege conferred.

"The relation existing between the defendants and the firemen being of a legislative character, the one imposing by authority, and the other assuming, certain duties, the defendants have not incurred liability to the plaintiff. The casualty which made him a sufferer was one incident to his status as a member of the community, for which his redress is not against the defendants, but against the firemen, who, at the time he was injured, were engaged in violating the law which the defendants declared they should obey."

So much for the non-liability of the municipality. The question then arises of the extent of the liability of an individual fireman, and the law in this regard seems to be that he is subject to the general rules of the law of negligence, with the qualification, of course, that the peculiar nature of his duties entitles him to very liberal judgment as to whether or not he has been negligent. Thus while the driver of a fire apparatus is required, the same as the driver of any motor vehicle, to exercise reasonable care, what is reasonable care on the part of one responding to an alarm of fire is to be judged in connection with the exigencies of the occasion. Moreover, drivers of fire apparatus have a right to rely on due care on the part of other users of the street, and those who are aware of the approach of the fire apparatus have the duty to yield for the passage of same. Speed laws and traffic laws have been held not to apply where an emergency justifies their violation. All this is a matter of judgment and discretion on the part of the firemen, and the cases seem to hold that he must be guilty of more than ordinary negligence—in fact, of gross negligence, in order to warrant a recovery against him. The decision as to the facts in each case is primarily in the hands of the jury.

There is on record no cases in the higher courts in which an individual fireman was involved as a defendant in an action for his negligence. There are several important cases, however, which may throw light upon the general question. In Muhs vs. Fire Insurance Salvage Corps, 89 App. Div. 389, the plaintiff, a policeman on duty at Washington Street and Myrtle Avenue, Brooklyn, N. Y., was run over and injured by the defendants' fire patrol wagon, August 13, 1901. The fire insurance salvage corps while under the supervision of the City Fire Department, was nevertheless a private corporation and so stood in the place of an individual fireman and could be sued. The plaintiff's version was that a woman and child stood apparently dazed upon the street crossing while the defendants' truck was approaching, and that he pushed them out of danger and was immediately struck himself. The defendants' version was that no woman

(*Continued on page* 531)

INDUSTRIAL PLANT PROTECTION

Howard Automobile Company Fire Protection System

By CHARLES W. GEIGER, San Francisco, Cal.

At the plant of the Howard Automobile Company, in San Francisco, there is a regular organized fire department consisting of three picked men from each department. In case of fire, the fire whistle sounds giving the floor on which the fire has been discovered. When the fire whistle sounds all the men in the fire department rush to the floor on which the fire is and proceed to extinguish it, taking the fire extinguishers from their departments as they go. Also on hearing the fire whistle the 50-gallon fire extinguishers (which are maintained at various points throughout the building near the elevator) are wheeled to the freight elevator and rushed to the seat of the fire.

Small fire extinguishers are attached to every other column

Upper, Spraying Room of Howard Automobile Company's Plant at San Francisco, Cal., in Foreground, with Blacksmith's Shop at Left. Note Rolling Doors and Fire Extinguisher. Lower, Fire Extinguishers and Buckets on Columns. Portable Office Shown in Center of Picture.

as shown in the illustration. A bucket of sand is also attached to each column around which there is painted a broad, red strip to enable the workmen to know where to find fire protection and fire-fighting equipment in case of fire.

The blacksmith shop and the spraying department (where cars are cleaned by spraying with steam and distillate) are each housed in a special concrete room, each room being provided with a metal rolling door, as shown in photo No. 2, which is connected with a fuse so that in case of fire in either department the door automatically drops down and confines the blaze to the concrete room, which is provided with an opening out through the roof through which the fire can be fought.

Two Spray-Booth Fires

A $300,000 fire and water loss due to the use of lacquer spray booths occurred some time ago at the Luce Furniture Company, Grand Rapids, Michigan. The fire started on the upper floor of the three-story building in a room containing ten spray booths used for applying pyroxylin lacquer to radio cabinets and furniture.

Four of the booths were provided with independent exhaust pipes in which an induced draft was maintained by means of an air-blast supplied through connections from a big blower-pipe. The blower-fan was located on the first floor in a wood-working room, and fine sawdust constantly drawn in by the fan had collected inside the pipe.

Directly beneath this blower-pipe in the top story, a fire started due to spontaneous ignition in a box of waste material, probably containing some of the pyroxylin lacquer residue from the spray booths. Three sprinklers opened and extinguished the fire, whereupon the water was shut off at the outside indicator-post gate. Then it was discovered that a section of the blower-pipe was red hot, evidently due to burning of the accumulated wood dust inside the pipe, ignited by the fire in the waste material.

Before fire extinguishers could be used, a noise was heard like the rushing of wind; and flames burst out of one of the booths and shot twenty-five feet across the room, blowing the glass out of several of the windows. Mild explosions followed in rapid succession from the adjoining booths which were connected to the same blower-pipe. The rope supports for the gravity-feed lacquer-tanks burned off, and the tanks fell, spreading burning lacquer over the floor and igniting a large stock of furniture in process, some with the finishing coats applied.

Within three minutes after the first burst of flame from the booth the sprinklers were turned on again, supplied with city water from both high- and low-pressure mains. The fire pump was also started and run at full speed, pumping directly into the sprinkler system. In addition, two hose lines from a fire-engine, which had come for the original fire, furnished water to the sprinklers through the fire department connections.

In spite of these prompt measures, every one of the 356 sprinklers in the room opened, including 19 in the spray booths. Although the sprinklers system was not modern, and had nine and ten sprinklers on the branch lines, yet the deluge of water from the sprinklers held the fire in check and permitted firemen to enter the room after about ten minutes. Nine hose streams were used intermittently for about an hour before the fire was completely extinguished. Most of the contents of the top story were involved in the fire and the stock on the lower floors was completely wet down.

Brick fire-walls kept the fire out of adjoining sections of the building: At one end of the room, standard sliding fire-doors closed automatically and prevented sprinklers opening in the section beyond; but at the opposite end of the room non-standard fire-doors did not all close promptly, and the wave of heat opened two sprinklers in the next section, causing considerable water damage.

Lessons of This Fire

1. Possibility of serious loss in well-protected property during brief interruption of sprinkler protection. Restore protection immediately after fire or accident, keeping hose lines and extinguishers at hand, in the meantime.

2. Suddenness of fires in spray booths and vent pipes. Danger of combustible supports for gravity-feed lacquer-tanks.

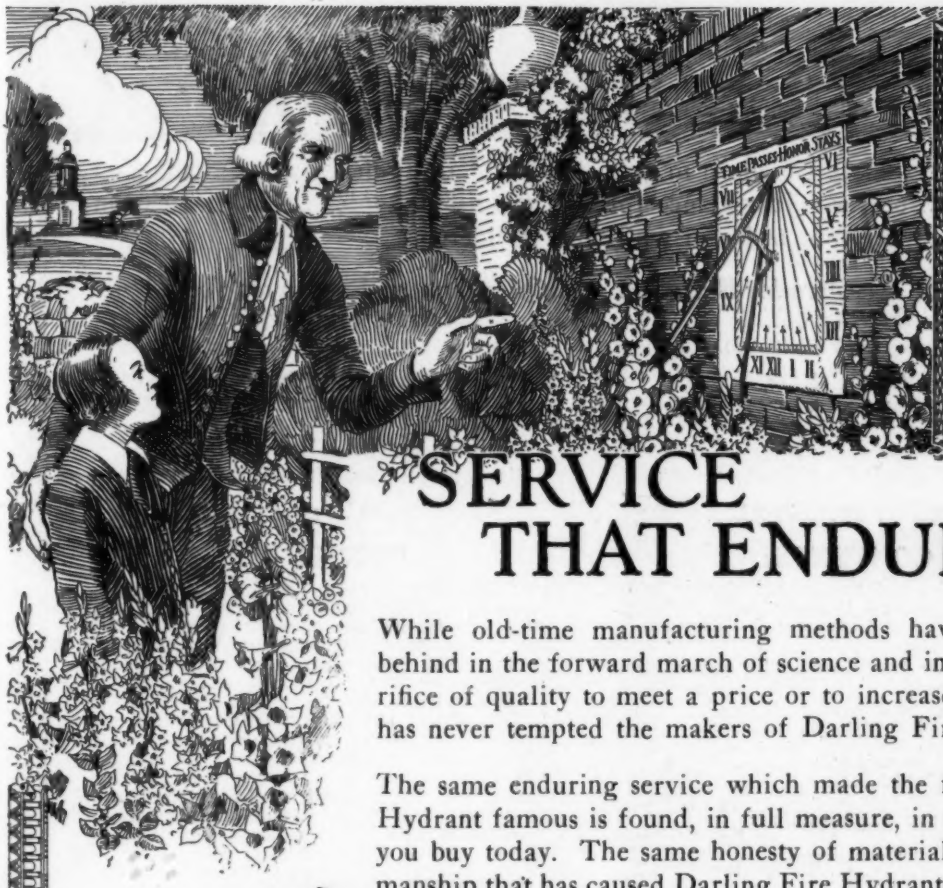
3. Rapidity of spread of fire throughout furniture finishing rooms. Consequent need of cutting off hazardous processes and providing large water supplies. Fire-department connections to sprinklers, valuable.

4. Clean spray booths and vent pipes frequently, and remove waste immediately from buildings. Keep spray-booth vents separate from other exhaust systems.

5. Induced-draft fans for spray booths should take suction from out of doors. Provide open sprinklers manually controlled, in long exhaust-pipes for dust or lacquer.

6. Value of fire walls between sections of building and need of waterproofing and draining upper floors in rooms containing hazardous occupancies.

(*Continued on page* 536)



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The same enduring service which made the first Darling Hydrant famous is found, in full measure, in the hydrants you buy today. The same honesty of materials and workmanship that has caused Darling Fire Hydrants to be specified for the most progressive cities is yours when you equip with Darlings.

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These two new books contain a mighty fine lot of up-to-the-minute information for every fire officer. Just glance through the list of topics covered as shown below — Then get your order in while the editions last.

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(210 *pages, fully illustrated*)

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Former Deputy Chief N. Y. F. D., and

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Managing Editor, FIRE ENGINEERING

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Fires of large size: How the following types of fires should be fought:
- Joisted brick buildings;
- Large department stores;
- Large hotels and rooming houses;
- Warehouses on waterfronts;
- Large area residential fires;
- Trains of gasoline tank cars;
- Combination stores and apartments;
- Large oil works;
- Motion picture film exchanges;
- Large refrigeration plants;
- Fiber and rag warehouses;
- Tall office buildings;
- Piano factories;
- Armory (during merchandise exhibitions);
- Large area celluloid merchandise factory;
- Seashore resort conflagrations;
- Large area "taxpayers;"
- Wholesale grocery stores and warehouses;
- Group-building fires;
- Theatres, schools, shoe and candy factories.

Inspection work: what it should cover, and how to supervise it.

Fire Hazards: a list of the more prominent hazards and how they may be corrected.

Overhauling: what it includes and how it is supervised.

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FALSE ALARMS

The Firemen Volunteers

Dedicated to the Volunteer Firemen of the World.

Alone a solitary host of men
Walk daily in their different spheres,
United strong, a band to win—
The FIREMEN VOLUNTEERS!
They do and dare such mighty deeds,
They walk amid the flames;
They save the lives of some who lead
Who would not ask their names.

They climb the smoke-filled burning stairs,
They scale the walls of tottering homes,
Undisturbed by selfish fears
While lives on lives they save.
Yes, on and on this band of men,
United by a common creed,
Stamp out the forked tongues of flame
Fighting for all who have a need.

And though they give, 'tis few who care,
Or few who dare to tell it thus:
Ah, few remember to hold dear
Those who fall in this great trust.
And yet—they stand, a gallant host,
Forgot, though unforgetting still
Great victors (but they do not boast)
Of an undaunted will!

By MYRTLE M. MALPASS.

IT WAS FAIRLY TERRIBLE.

Fire! Fire! Fire!

People were yelling "fire" because there was a fire.

A big house was on fire and if something wasn't done it would be a mistake, a serious mistake.

Clang! Clang! Clang!

Every one knows that's how the fire wagon sounds, even if it doesn't.

Honk! Honk! Honk!

That was the autos of excited spectators coming to the fire.

Step! Step! Step!

That was the people who had to run because their autos were in the shop, or at home, or away from home, or somewhere.

Clang! Clang! Clang!

Gee whiz! The fire wagon passed right by the burning house and now it's turning the corner.

Here it comes again.

Clang! Clang! Clang!

Gee whiz! There it goes. Passed by the house again.

Here they come around the block.

They are slowing down. Hot dog, they stop!

"Guess we'll have to take a chance, Bill," yells one fireman.

"All right, Henry. But I am warning you," yells Bill.

Here comes a policeman.

"Hey," says the policeman. "You can't park there."

"And why not, officer?" questions the fireman named Henry.

"Don't you see that fire plug?"

So they drive away. So the house burns.—*Life.*

FAIRY STORY.

Once upon a time there was a gala performance at a great theatre packed with people from both ends of town, not to mention the middle.

Suddenly there was a shout of "Fire!" Tendrils of smoke curled out of the wings; a tongue of flame lapped at the curtains of the lower right-hand box.

Every one in the auditorium coolly picked up his program, turned to the floor diagrams and picked out his exit. Then he, or she, gathered up his, or her, wraps and walked (not ran) directly to that exit. The theatre was emptied in three minutes to the second. —*Life.*

"THIS WORKED!
WHY NOT THIS?
Place Skyscrapers
On Wheels So As
To Move Them In Either Direction
Thus Allowing Any Particular Bldg. To Burn Down!

With flames from a blazing church a few yards away, scorching their skins, 200 negroes lifted a three-story frame house and carried it 150 feet to save it from the fire which destroyed the church at Hialeah, Fla. When it was seen that the house would catch fire Fire Chief Latham rounded up the negro bystanders and with a man at every available handhold they lifted it bodily from its foundation and carried it beyond reach of the flames.

FIRE DEPARTMENT ACTIVITIES

Ripley, N. Y., Purchases Apparatus—Ripley, N. Y., has signed a contract for the purchase of a Pirsch 350-gallon triple combination car.

New Chief for Norwood, Mass.—John J. Hanigan a retired lieutenant of the New York fire department has been appointed chief of Norwood, Mass

Witchita Falls, N. Y., Has New Fire Station—A new fire station has been erected in Wichita Falls, N. Y. at a cost of $22,000. It will house a combination hose and chemical and a pumper.

Joplin, Mo., Firemen May "Strike"—Because of the alleged statement of the mayor-elect of Joplin, Mo., that he would remove Chief Wondel, it is stated that there would be a general strike in the fire department when the chief left.

Cedar Rapids, Ia., Has Saxaphone Firemen's Band—The fire department of Cedar Rapids, Ia., has a saxaphone band composed mainly of members of the central fire station. They helped entertain at the annual firemen's dance.

Salem, Mass., to Celebrate Anniversary—Salem, Mass., is to celebrate the three hundredth anniversary of its founding. All of the towns that sent aid during the conflagration of 1914, have been asked to send delegations to the parade which will be held as part of the program.

Mobile, Ala., Has Bad Fire—A fire which occurred in the heart of the business section of Mobile, Ala., caused $300,000 damage. The number of overhead wires handicapped the operation of the aerial ladder in its work. Several of the firemen were badly injured while fighting this fire.

City Paid $50 to Mail Letter—The story of turning in an alarm while mistaking the device to be a letter box is an old story. However, when the stunt occurred in Norway, Me., it cost the city $50 to mail the letter. The department has call men who receive $1 for each alarm that they answer.

Lawrence, Mass., and Railroad Sued for Deaths—Lawrence, Mass., and the Massachusetts Northeastern Railway have been named defendants in a suit for $100,000 damages for the death of five persons at a fire at which the fire apparatus was hampered because of streets blocked by snow.

Camp Found on Chelsea Fire Station—Two boys who were lured by the thrill to seek the big open spaces were found on the roof of a fire station in Chelsea, Mass., where they had established camp for three days undetected. They had mats for bedding and baby carriage robes for covering.

New Fire Truck at Springdale, Pa.—The fire department at Springdale, Pa., has been strengthened by the addition of a new Cadillac chemical and hose car, which was purchased from the Boyer Fire Apparatus Company, of Logansport, Ind. The equipment includes a 40-gallon chemical tank, with 800 feet of hose, search light, siren, extension ladder, a single ladder, etc.

Suffern, N. Y., Elects Officers—At the annual fire department election of Suffern, N. Y., August Temple was re-elected chief engineer with Edson L. Thompson, first assistant and Victor N. Frauson, second assistant. The convention and parade of the Rockland County Volunteer Firemen's Association will be held this year in Suffern but no date has been set as yet.

Elkins, W. Va., Chief Serves 25 Years—Chief M. H. Brightbill of Elkins, W. Va., has rounded out twenty-five years of service as chief of the department. He is the city's first chief and has maintained the office since. Chief Brightbill has seen the department grow from hand-drawn apparatus to its present modern equipment; he is a staunch booster of fire prevention.

New York City Has High Fire Losses—The insurance companies doing business in the Metropolitan district of New York city are deeply concerned over the increased fire losses for the first quarter of 1926. Compared with the same period of last year, the losses have increased $1,288,000. Restaurants head the fire list with 32 fires and retail grocery stores come next with 27 fires. Garment risks are prominent in the manufacturing industries list.

Northfield, Minn., Chief to Retire—Chief R. C. Phillips of Northfield, Minn., will retire at the end of the administration term which marks fifty years service in the department. The chief entered the department in 1876 and eight years later he was promoted to chief. The members of the department were entertained at a dinner in Chief Phillips' home and included among the guests were Chief Rinter of Minneapolis, and John Grosse of Red Wing.

A New Cause for Forest Fires—When a heifer which was being lead by two men in a Pennsylvania town, refused to move, they built a fire near her. The fire moved the heifer and in addition, it spread to the adjoining forest land. The men were charged the cost of extinguishing the fire.

Nyack Fire Patrol Leader Presented with Helmet—Capt. William P. Babcock in charge of the salvage corps work of the Nyack, N. J., fire patrol was presented with a handsome fire helmet on which was mounted a suitably engraved silver plate. Following the presentation, a party was held at his home attended by members of the Nyack patrol.

Seeks Damages for Death Caused by Fire—The owners of the Prairie House, at Hurleyville, N. Y., which was destroyed by fire on Washington's birthday, and in which several guests lost their lives, are being sued by the estate of one of the victims. The administrator of the estate is suing for $50,000 damage.

Waterbury, Conn., Firemen Injured—As one of the fire department trucks of Waterbury, Conn., was leaving the station in response to an alarm, it was struck by a trolley car. Five of the firemen were injured in the crash and one was rushed to the hospital suffering from concussion of the brain.

Sick Fireman Leaps From Bed, When Bell Rings—The old story of the ex-fire horse has its duplicate in the story of a St. Joseph, Mo., fireman who was recovering in a local hospital from an operation. While in a semi-conscious condition, every time the call bell in the corridor near his room rang, even while the patient was asleep, he would throw off his bed clothes at the first clang of the bell. His bed was moved to a quieter part of the hospital.

Boston Has Oldest New England Company—The oldest fire company in New England, is believed to be Engine 7 of Boston, Mass., which was organized in 1678. It was one of the two fire companies to have a steam fire engine. New York was the second city to have a fire company and an engine in 1731—at that time, Boston had six. In 1736 Benjamin Franklin organized a company in Philadelphia, and in 1738, a company was organized in Newburyport, Mass. Other dates are Salem, 1738; Providence, R. I., 1754; Bethlehem, Pa., 1763; Baltimore 1769 and New Bedford, 1772.

Fire Alarm Notes

Hackensack, N. J., May Have Auxiliary Alarm—The firemen in the southern section of Hackensack, N. J., are agitating for the installation of an auxiliary fire alarm system so that they hear the fire alarm signals.

Port Huron, Mich., Purchases Boxes—Twenty-one fire alarm boxes and a master box were purchased by Port Huron, Mich., the installation of the new boxes will aid materially in increasing the efficiency of the system.

Siren Installed in Willets, Cal.—A new electric fire siren has been installed in Willets, Cal. The siren will be blown at 7 a. m., 1 and 5 p. m. in accordance with the practice in existence in most California towns.

Several Sales of Federal Siren Reported—Kennedy, N. Y., has purchased a Federal double head siren with a complete fire alarm system. In addition the following places have purchased double head sirens, Lakewood, N. Y., and Freesburg, N. Y.

Contracts Reported by Harrison-Seaberg Corporation—Jersey City, N. J., has awarded a contract for fifty PNIS fire alarm boxes and other fire alarm equipment to the Harrison-Seaberg Corporation; Seattle, Wash., has awarded this firm a contract for sixty PNIS fire alarm boxes and Cleveland, Ohio has ordered 184 traffic signals for their new traffic signal system.

Chimpanzee Causes Run of False Alarms—Following the escape of a pet chimpanzee belonging to a letter carrier of Berlin, Germany, the department was busy for twenty-four hours in answering false alarms. The escaped animal discovered that it was a lot of fun to break the glass in the fire alarm boxes and pull the handles. Pleased at the sound of the responding apparatus, the chimpanzee repeated his performance and kept the fire department in a state of excitement.

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ELECTRIC SIRENS

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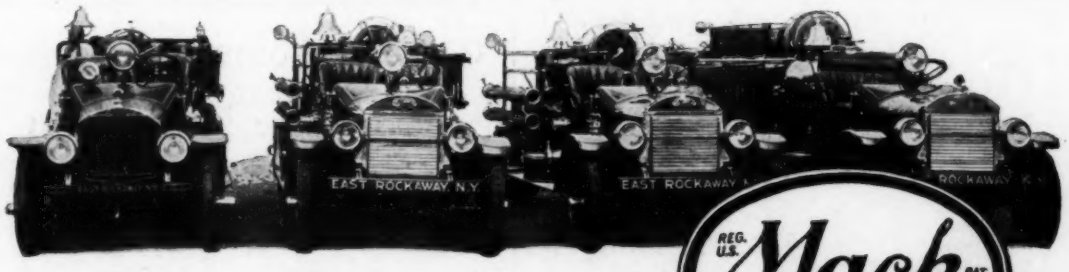
Fire and Police Apparatus, Cars, Motorcycles, Traffic Signals and other purposes where a distinctive signal is required.

The SIRENO COMPANY, Inc.

STATEN ISLAND, N. Y.



REG. U.S. Mack PAT. OFF. Fire Apparatus

A Town with unusual Fire Protection

AFTER five years of experience with a 300 gallon Mack A. B. Pumping unit, East Rockaway, New York, has purchased three additional Macks, including two 400 gallon pumpers and one City Service Hook and Ladder Truck.

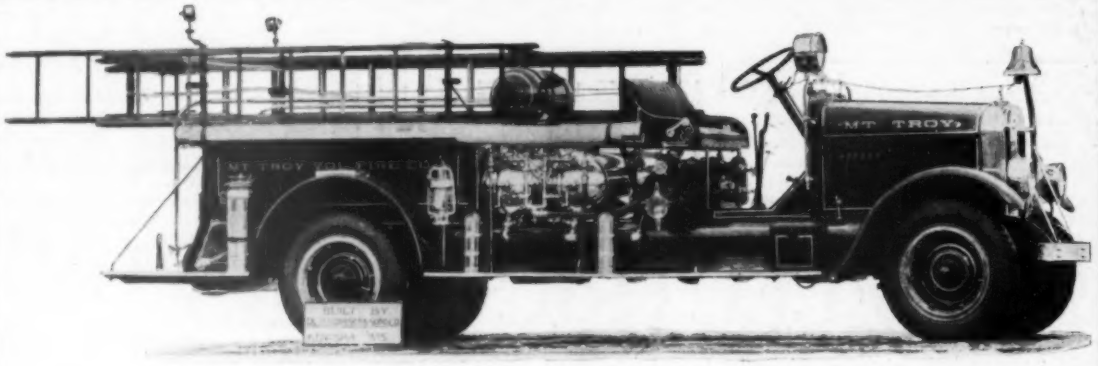
With its present completely motorized Department, this town, covering approximately one square mile, having a population of 3,500 people and an assessed property valuation of $1,750,000, is perhaps better protected against fire than any town of equal size in the country.

The Mack pumping units are equipped with two ladders, two lengths of suction hose, two axes, Detroit Door Opener, two play pipes with assorted nozzle tips and a 100 gallon water tank built in front end of hose body, from which an efficient stream of water can be pumped through the hose while on the reel. The ladder truck has a complete assortment of ladders, fire tools and a 40 gallon foam tank for fighting oil fires.

The complete line of Mack Fire Apparatus includes pieces specially designed for rural and small town service as well as for the requirements of the largest metropolitan fire departments. Write for Catalogues illustrating and describing the full line of Mack Fire Apparatus and Municipal Service Equipment. They wil be gladly furnished free on request.

MACK TRUCKS, INC.
INTERNATIONAL MOTOR COMPANY
25 Broadway New York City

One hundred and five direct MACK factory branches operate under the titles of: "MACK-INTERNATIONAL MOTOR TRUCK CORPORATION," "MACK MOTOR TRUCK COMPANY," and "MACK TRUCKS OF CANADA, LTD."



This is the "Pirsch-Special" 500 Gallon Pumper. Passed the National Board of Fire Underwriter's 12 hour test, delivering 508 Gals. at 124 pump pressure with motor speed of only 1669.

"General Remarks": "Engine ran smoothly. Easily delivered quantities at necessary pressure and was in good condition at end of test."

We are proud of this record and performance and would like to tell you more about it. Write us for details. Our thirty years exclusive fire apparatus experience backs our product.

PETER PIRSCH & SONS CO.

Established 1857

Main Office and Plant: KENOSHA, WIS. **NEW YORK Office: 15-25 Whitehall St.**

Shuredry Salvage Covers

COST LESS—
WEIGH LESS—
MORE EASILY HANDLED

Chief Boyd, of the Knoxville, Tenn., Fire Department, has used "Shuredry" Salvage Covers for eight years. He says: "They are *waterproof, not affected by the weather, easy to handle, and altogether the most satisfactory covers we have ever used.*"

They do not freeze in winter, nor become tacky in summer. They are not subject to spontaneous combustion, nor to cracking where folded. One man can carry four up a ladder at one time.

Made in standard sizes. Write our nearest plant for samples and prices.

FULTON BAG & COTTON MILLS
Manufacturers since 1870
Atlanta, New Orleans, Brooklyn, St. Louis, Dallas, Minneapolis

Successful Since Sixty-Eight

Worcester Fire Alarm Signals

are built by specialists—skilled workers who have devoted years to the mechanics of whistles.

Wherever Worcester Fire Alarm Signals have been installed they have been uniformly successful, not only as efficient alarms, but because of their freedom from objectionable harshness.

Either steam or air operated. One of our four sizes will fit your needs.

Write for our booklet R-51 giving complete information.

Union Water Meter Co.
WORCESTER, MASS.

New York Office: 50 Church St.
Phila. Office: 539 Real Estate Trust Bldg.

CONVENTION DATES

June 8-10—HUDSON VALLEY VOLUNTEER FIREMEN'S ASSOCIATION. 37th Annual Convention, Port Jervis, N. Y. Secretary, Chief Chris W. Noll, Fire Department, Poughkeepsie, N. Y.

June 8-10—OHIO FIRE CHIEFS' ASSOCIATION. 9th Annual Convention, Warren, Ohio. Secretary, Chief Philip J. Harty, Youngstown Sheet and Tube Company, Youngstown, Ohio.

June 9-11—MARYLAND STATE FIREMEN'S ASSOCIATION, 34th Annual Convention, Westminster, Md. Secretary, George R. Lindsay, Hagerstown, Md.

June 10-12—ARIZONA STATE FIREMEN'S ASSOCIATION. 3rd Annual Convention, Prescott, Arizona. Secretary-Treasurer, Chief W. J. Nemeck, Douglas, Ariz.

June 11-12—LEBANON COUNTY FIREMEN'S ASSOCIATION. Annual Convention, Myerstown, Pa. Secretary, William I. Kutz, Box 233, Myerstown, Pa.

June 14-17—OKLAHOMA STATE FIREMEN'S ASSOCIATION. Annual Convention, Firemen's Training School and Fire Prevention Institute, Enid, Okla. Secretary, Charles Slemp, 636 East 12th St., Oklahoma City. Director, Training School, J. E. Taplin, Blackwell.

June 15-16—MINNESOTA STATE FIRE DEPARTMENT ASSOCIATION. 54th Annual Convention, New Ulm, Minn. Secretary, Ex-Chief John A. Gross, 1110 Harmon Place, Minneapolis, Minn.

June 15-18—UNIVERSITY OF ILLINOIS COURSE IN FIRE PREVENTION CONTROL, AND EXTINGUISHMENT. Annual Course, to be held at the University.

June 16-18—NEW YORK STATE ASSOCIATION OF FIRE CHIEFS. 20th Annual Convention, Hotel Van Curler, Schenectady, N. Y. Secretary-Treasurer, Chief James H. Golden, Fire Department, Cohoes, N. Y.

June 16-19—WISCONSIN STATE FIREMEN'S ASSOCIATION. 39th Annual Convention, and Tournament, Cedarburg, Wis. Recording Secretary, E. Philip Mueller, Jefferson, Wis. State Organizer, Chief H. H. Niemeyer, Portage.

June 21-23—OREGON STATE FIRE CHIEFS' ASSOCIATION. Annual Convention, Corvallis, Ore.

June 22-24—NEW ENGLAND ASSOCIATION OF FIRE CHIEFS. Fourth Annual Convention, Hotel Carpenter, Corner Merrimack and Franklin Sts., Manchester, N. H. Exhibit Hall, New Hampshire State Armory, Secretary, Chief John W. O'Hearn, Watertown, Mass. Chairman, Exhibit Com., Chief Henry H. Heitman, Waterbury, Conn.

June 22-24—SOUTHERN NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 31st Annual Convention and Tournament, Islip, Long Island, N. Y. Secretary, August Kalb, 27 N. Centre Ave., Rockville Centre, L. I.

June 24-25—SOUTH CAROLINA STATE FIREMEN'S ASSOCIATION. 21st Annual Convention, Charleston, S. C. Secretary, R. S. Hood, Sumter.

July 13-15—MICHIGAN STATE FIREMEN'S ASSOCIATION. 52nd Annual Convention, Caro, Mich. Secretary, H. L. Williams, Ludington, Mich.

July 14—DELAWARE STATE VOLUNTEER FIREMEN'S ASSOCIATION. 6th Annual Convention, New Castle, New Castle County, Del. Secretary, Sam H. Carson, Dover. President, Geo. Clifton Maull, Lewes.

July 21-22—CENTRAL NEW YORK VOLUNTEER FIREMEN'S ASSOCIATION. 33rd Annual Convention and Parade, Endicott, N. Y. Secretary, Millwood Fitch, Moravia, N. Y. Secretary, Local Committee, Floyd L. Jackson, Endicott.

July 26-28—MONTANA STATE FIREMEN'S ASSOCIATION. 35th Annual Convention, Big Timber, Mont. Secretary, D. E. Moser, Bozeman, Mont.

July 27-28—WESTERN NEW YORK VOLUNTEER FIREMEN'S Association. Annual Convention, Kenmore, N. Y. Secretary, Henry A. Clark, 21 Porter Ave., Batavia, N. Y.

Aug.—CENTRAL PENNSYLVANIA VOLUNTEER FIREMEN'S ASSOCIATION. Annual Convention, Tyrone, Pa.

Aug. 2-4—COLORADO STATE FIREMEN'S ASSOCIATION. 10th Annual Convention, Denver, Col. Secretary, Clinton Turnbull, Fire Department, Denver, Col.

Aug. 9-14—WESTERN PENNSYLVANIA FIREMEN'S ASSOCIATION. 33rd Annual Convention, New Kensington, Pa. Secretary, Secretary Convention Committee, R. A. Kanouff, New Kensington.

Aug. 16-18—UTAH STATE FIREMEN'S ASSOCIATION. Annual Convention, and Tournament, Park City, Utah. Secretary, Fred Peters, Murray, Utah.

Aug. 16-19—FIREMEN'S ASSOCIATION OF THE STATE OF NEW YORK. 54th Annual Convention, Alexandria Bay, N. Y. Secretary, Fred A. Davis, Fort Edward, N. Y.; Treasurer, William H. Swartout, 115 Main Street, Ossining, N. Y.

Aug. 19-20—CONNECTICUT STATE FIREMEN'S ASSOCIATION. 43rd Annual Convention, Elks' Home, Washington St., New London, Conn. Secretary, D. W. Harford, South Norwalk.

Aug. 24-27—DOMINION ASSOCIATION OF FIRE CHIEFS. 18th Annual Convention, Windsor, Ont. Secretary, Chief James Armstrong, Kingston, Ont.

Sept. 13-15—KENTUCKY FIRE CHIEFS ASSOCIATION. Annual Convention, Fire Department Drill School, Louisville, Ky. Secretary, Captain S. G. Render, Fire Department Instructor, 303 Speed Building, Louisville. For exhibits at State Fair, Sept. 13-18, address State Department of Fire Prevention and Rates, Frankfort, Ky.

Sept. 14-15—IOWA STATE FIREMEN'S ASSOCIATION, 49th Annual Convention, Manning, Ia. Secretary, E. E. Parsons, Marion.

Sept. 14-16—MASSACHUSETTS STATE FIREMEN'S ASSOCIATION 47th Annual Convention, Fall River, Mass. Secretary, Daniel J. Looney, 1046 Old South Building, Boston, Mass.

Sept. 21-24—INTERNATIONAL ASSOCIATION OF MUNICIPAL ELECTRICIANS. 30th Annual Convention, Battery Park Hotel, Ashville, N. C. Secretary, William R. Arbuckle, Supt. Fire Alarm, Bayonne, N. J. Chairman Exhibit Committee, Daniel J. Morgan, Sales Engr., Hazard Mfg. Co., Wilkes-Barre, Pa.

Sept. 22-23—INDIANA STATE FIREMEN'S ASSOCIATION. 9th Annual Convention, Marion, Ind. Secretary, Frank H. Miller, Fire Headquarters, Terre Haute, Ind.

Sept. 24—NEW JERSEY FIRE CHIEFS' ASSOCIATION. Annual Convention, Atlantic City, N. J. Secretary, Fred A. Trowbridge, 17 South Street, Morristown, N. J.

Sept. 24-25—NEW JERSEY STATE FIREMEN'S ASSOCIATION. 49th Annual Convention, Atlantic City, N. J. Secretary, William Exall, Chamber of Commerce Building, Newark, N. J.

Sept. 27-29—ARKANSAS STATE FIREMEN'S ASSOCIATION. Annual Convention, Jonesboro, Ark. Date of meeting tentative. H. S. Compton, secretary. Central Fire Station, Little Rock, Ark.

Sept. 27-29—KANSAS STATE FIRE CHIEFS' AND STATE FIREMEN'S ASSOCIATIONS. 10th and 39th Annual Conventions, respectively, Manhattan, Kan. Secretary, Chief K. D. Doyle, Wamego, Kan.

Oct. 5-7—FIREMEN'S ASSOCIATION OF THE STATE OF PENNSYLVANIA. Annual Convention, Philadelphia, Pa. Secretary, Charles F. Clark, 411 Bellevue Avenue, Wayne, Pa.

Oct. 12-15—PACIFIC COAST ASSOCIATION of FIRE CHIEFS. 33rd Annual Convention, Fresno, Cal. Secretary, Chief Jay W. Stevens, 1014 Merchants Exchange Building, San Francisco, Cal.

Oct. 19-22—INTERNATIONAL ASSOCIATION OF FIRE ENGINEERS, 54th Annual Convention, Hotel Roosevelt, New Orleans, La. Secretary, Chief James J. Mulcahy, Yonkers, N. Y. Chairman Exhibit Committee, Chief Wm. F. Daley, Brockton, Mass.

Oct. 20—OFFICERS' ASSO. FIRE PATROLS, SALVAGE CORPS AND PROTECTIVE DEPTS. OF U. S. AND CANADA. Meeting at New Orleans in connection with I. A. F. E. Convention. Secretary, John Ashmead, 76 William St., New York City.

Drivers of Fire Trucks are Liable for Damages

(*Continued from page* 523)

or child was on the scene but that the plaintiff stood on the crosswalk with his back to the defendant's beckoning with his club for the driver to come on, and that he then actually backed in the horses. All agreed the apparatus was driven as fast as horses could gallop. The jury found for the plaintiff. The Appellate Division said, in affirming the verdict:

> "The defendant is not absolved from liability for negligence merely because by the terms of the act incorporating it, it is given the right of way in the streets of Brooklyn. Such right of way is necessarily subject to the preservation of the safety of those who may be lawfully upon the streets at the time of a fire, and while the emergency under which the defendant's servants are called upon to act undoubtedly justifies speed in driving to the scene of disaster, such speed must be exerted with reasonable care and a due regard to the lives and limbs of those who may be met upon the way. In the eagerness to save property the value of human life is sometimes lost sight of. The evidence indicated that there was no difficulty in seeing the plaintiff on the evening of the occurrence complained of, and is sufficient to justify the jury in concluding that the defendant's servants were negligent in the manner in which the horses were driven upon the occasion in question."

The court held, further, that it was the policeman's duty to endeavor to save the woman and child, and that it was not contributory negligence on his part to attempt to do so.

In Farrell vs. Fire Insurance Salvage Corps, 189, App. Div., 795, a light car containing a Battalion Chief, the plaintiff, and his driver, collided with a Fire Insurance Salvage Corps truck at Decatur Street and Lewis Ave, Brooklyn, in 1918. The Battalion Chief sued the Fire Insurance Salvage Corps. The jury's verdict for the defendant was affirmed, it being held that the plaintiff's chauffeur, for whose negligence the plaintiff was responsible, either saw the defendant's truck and endeavored to pass ahead of it, or did not look at all, and that either conclusion by the jury justified a verdict of contributory negligence on the part of the plaintiff. The judge charged that:

> "When an alarm of fire is sent out it is of the greatest importance that it be answered with celerity for the protection of life and limb and property, and the preservation thereof, and that it was the right, if not the duty of the two vehicles, to answer such alarm with the greatest practicable speed; that the city ordinances limiting the speed of vehicles did not bind plaintiff or defendant. Both vehicles had a right to go upon the street. It was their duty to answer the call, but they were bound to exercise the care and caution which reasonably prudent men would exercise under similar circumstances."

The Appellate Division in approving this charge and affirming the verdict brought up the question of right of way. It said that the right of way of fire apparatus is necessarily subject to the preservation of the safety of those who may be lawfully upon the streets, and that while the emergency in the case of fire apparatus undoubtedly justifies speed in driving to the scene of disaster, such speed must be exerted with reasonable care and due regard to the lives and limbs of those who may be met on the way. And it added that the question of right of way did not arise in the matter before it, since it appeared that neither party had seen the other.

In Dowler v. Johnson, 225 N. Y. 39, it appeared that the defendant, in 1913 was Fire Commissioner of New York City, and that on a trip to inspect some new fire houses in Brooklyn his car collided with another automobile. The injured person sued, charging the Commissioner's car with proceeding at the rate of fifty miles an hour, at which point he was non-suited in the lower court on the ground that, no matter what the negligence of the Commissioner's driver might have been, the defendant was not liable. This ruling was affirmed in the

Appellate Division but was reversed and a new trial ordered by the Court of Appeals, on the ground that plaintiff should have been allowed to present his case and let the jury decide whether the defendant had unreasonably omitted to check his driver's speed, as if such speed was in fact excessive, ratification thereof after reasonable opportunity to protest would bind the defendant. The court also ruled that officers and men of the New York City Fire Department are not exempt from the ordinary limitations of speed rules unless they are proceeding to a fire, or responding for emergency work in case of fire, accident, public disaster, or impending danger.

The whole matter seems to come to this: that while an individual fireman is subject to being held liable for his negligence, such negligence is measured with the nature of the emergency in mind, and usually must be gross indeed to warrant a recovery, but the facts nevertheless are to be weighed before and decided by a jury, and, as in other negligence actions, the jury's verdict will only be interfered with on appeal when a matter of law is presented to the appellate court and decided in the appellant's favor.

Okla. State Firemen to Have Training School

(*Continued from page* 508)

11:30 Inspections, Atkinson.
12:00 Noon.
School A—Training the Fireman, Supt., Chief E. H. Miller, McAlester, Oklahama.
1:30 Elementary Training, Wolfe and assistants.
2:30 Demonstrating proper methods of using fire apparatus equipment and appliances, Osborne and Company of Oklahoma City Department.
4:00 First Aid Demonstrations, Wolfe.
4:30 Artificial Resuscitation.
School B—Fire Control and Extinguishment, Supt., Chief George Gattis, Chickasha, Oklahoma.
1:30 Fire Control and Extinguishment from the viewpoint of the Chief Executive Officer.
2:30 The Hydraulics of Fire Streams, Representative National Board.
3:30 Ventilating in Fire Fighting, Goff.
4:30 Fire Alarms, representative the Gamewell Fire Alarm Company.
School C—Safeguarding the Business District, Supt., Chief Tom Lyle, Okmulgee, Oklahoma.
1:30 Building Construction, Nelson.
2:30 Electrical Installations, Representative Oklahoma Rating Bureau.
3:30 Mechanical Installations, Nelson.
4:30 Inspections, Atkinson.
7:00 P. M.—Memorial Exercises.
7:45 P. M.—Educational Motion Picture.

Wednesday, June 16

8:30 A. M.—Business Session, Convention Hall.
1:30 to 5:00 P. M.—Business Session, Departmental Meetings.
1:30 P. M.—All Chiefs, Assistants and Deputy Chiefs, Mayors, Commissioners, Managers and City Officials to discuss matters of mutual interest, and to select Topics and leaders for the Round Table Discussions.
1:30 P. M.—All Company Commanders, Captains, Lieutenants, Foremen, etc.
1:30 P. M.—All Master Mechanics and Assistants, Engineers and Assistants, Drivers and Second Drivers.
1:30 P. M.—All Company Members.
1:30 P. M.—All Fire Alarm Superintendents, Assistants, Operators and Employes.
3:00 P. M. to 5:00 P. M.—Round Table Discussions.

Thursday, June 17

8:30 A. M.—Business Session, Convention Hall.
1:30 P. M.—Tournament.

Fire Prevention Institute Programme Auspices Enid Fire Prevention Board

Officers of the Association and Training School Faculty will put on Fire Prevention Programs at the following meetings:

Monday, June 14

Noon Luncheon.....Rotary Club

Tuesday, June 15

Noon Luncheon.....Kiwanis Club

Wednesday, June 16

9:00 A. M.—Harry K. Rogers, Fire Clown, will put on his entertainment for the benefit of school children.
Noon Luncheon.....Lions Club
3:00 P. M.—"Fire Prevention in the Home."

Thursday, June 17

9:00 A. M.—Harry K. Rogers and School Children.
Noon Luncheon.....Retail Credit Association

Community Fire Problem—Loganville, Wis., with only 300 population, boasts of a fire department affiliated with the State Firemen's Association. It affords adequate fire protection for 258 farms in eight townships.

Injunction Halts Firemen's Raise—The mayor and City Council of Atlanta, Ga., have sponsored an injunction restraining the city from paying its firemen larger salaries, which was authorized by a special election Dec. 2.

PROPOSED IMPROVEMENTS

Jersey Shore, Lycoming Co. Pa.—Bids will be received by the Borough Council until 7:30 p. m., June 7, for furnishing 1,000 feet of 2½-inch fire hose, two or three ply, complete with couplings. Standard Jersey Shore thread; or bids for the same amount of hose as above stated except that the Council furnish 20 second hand couplings. Address all bids to J. O. Karicher, Borough Secretary.

Turtle Creek, Alleghany Co. Pa.—Bids will be received by the Borough of Turtle Creek until 7:30 p. m., June 7, for furnishing complete one fire truck fully equipped according to specifications and requirement of the property committee of the Council. E. E. Little, Borough Council, 934 Oxford St.

Hanford, Kings Co., Cal.—Fire Chief Kendall recommends the purchase of new fire hose.

San Mateo, San Mateo Co., Cal.—Volunteer fire department conducting campaign for installation of fire extinguishers in homes and building establishments of this place.

Bridgeville, Allegheny Co., Pa.—Fire department raising funds for purchase of additional equipment.

Somerset, Somerset Co., Pa.—Election will be held on May 18 to vote on the $30,000 bond issue for the purchase of fire apparatus. Richard Pile, Borough Clerk.

South Williamsport (Mail Williamsport) Lycoming Co., Pa.—Citizens Fire Co. contemplates the installation of a fire alarm system for the town. James W. Dibert, 30 W. Southern Ave., member of the committee in charge, writes that he would like to have alarm representatives go over the ground with him and get prices.

Wisconsin Rapids, Wood Co., Wis.—The Public Property Commitee of the Wood County Board is investigating the feasibility of organizing a county fire department.

New Britain, Hartford Co., Conn.—Chief Wm. J. Noble recommended in his annual report the purchase of a new aerial truck and the erection of a new fire station in west end of city, and the purchase of fire alarm boxes for schools and institutions.

Atlanta, Logan Co., Ill.—At election held April 20 city voted in favor of a $5,000 bond issue for purchase of fire apparatus.

Biddeford, York Co., Maine—Eugene T. Ricker, Chief Engineer, Fire Dept., recommends purchase of ladder truck. Council in favor of purchase.

Chatfield, Fillmore Co., Minn.—Considering the motorization of fire department.

Silver Creek, Merrick Co., Neb.—To purchase a 40-gallon chemical tank after recent fire.

Princeton, Mercer Co., N. J.—Fire department to purchase new apparatus.

Waterford, N. Y.—(Saratoga Co.) New equipment to amount to 7,000 will be purchased for fire department.

Bartonville, Peoria Co., Ill.—Movement on for the purchase of fire apparatus after recent fire.

No. Adams, Berkshire Co., Mass.—Petitions being circulated for special fire district meeting for the purpose of rescinding the action in favor of the purchase of fire apparatus.

Passaic, Passaic Co., N. J.—New fire hydrants to be installed in various streets. Supt. of Public Works Edward Vandervliet.

Highland Park, Middlesex Co. N. J.—Plans being discussed for improving fire alarm system.

Margate City, (Mail Ventnor) Atlantic Co., N. J.—Chamber of Commerce recommended to City Commission that fire alarm system be improved to include the purchase of additional fire alarm boxes.

Bernardsville, Somerset Co. N. J.—Village to purchase fire apparatus at cost of $15,000.

Doylestown, Bucks Co., Pa.—Committee appointed to investigate prices on a pumper with chemical tank attached, for the Doylestown Fire Co. C. Hobensack, President.

Morrisville, Bucks Co., Pa.—Erection of a new fire station planned.

Lewisburg, Marshall Co., Tenn.—Planning purchase of new fire equipment.

Ashville, Buncombe Co., N. Car.—Board of Fire Underwriters recommend that city purchase a 700-gal. pumper carrying 40-gal chemical or water tank, life belts, roof cutter and other auxiliaries, also the erection of a drill tower and the installation of fire alarm boxes.

Dayton, Montgomery Co., Ohio—Plans being made for establishment of 11 additional fire stations as city expands.

Spartanburg, Spartanburg Co., S. Car.—City to erect fire station at N. Church and Magnolia Streets.

Atlanta, Ga.—Board of Fire Underwriters recommended the purchase of an aerial ladder truck and a city service truck, also life belts, distributing nozzle, and other auxiliaries.

Glasford, Peoria Co., Ill.—Glasford Volunteer Fire Department planning to purchase chassis and chemical tanks, hose reel, ladders, etc.

Bandon, Coos Co. Ore.—Volunteer fire department to be organized.

Fire Apparatus For Sale

Two Single Tank Combinaton Chemical and Hose Cars, hose body capacity 1000 feet 2½" fire hose, 200 feet chemical hose. Fully equipped. Price very attractive. E. A. Mahoney, Village Clerk, Albion, New York. 4-25, 10, 25.

Proposals for Fire Hose

FAIRVIEW, N. J.

Bids Opened June 3, 1926.

Sealed proposals for furnishing Seven Hundred (700) ft. more or less of Fire Hose will be received by the Mayor and Council of the Borough of Fairview, N. J., at Lincoln School, corner Day and Anderson Avenues, on Thursday, June 3rd, 1926, at 8:30 p. m., Daylight Savings time.

Hose to be two and one half inch, rubber lined, double jacket, 400 lbs., guaranteed three years. Samples of hose to be submitted with bid.

The Mayor and Council reserve the right to reject any or all bids.

George Ebel, Jr.,
Borough Clerk.
Alexander C. Marmet,
Mayor.

5-25.

?

"SIRACODE"

?

The Los Angeles Fire Dept. is 100% B & M equipped.

Hundreds of Cities over the country using our sirens.

B and M

We gladly send B & M Sirens to cities on approval without expense.

SIREN

"It pierces the air"

You Will Eventually Buy B & M's

Fire officials find the powerful B & M fire apparatus Siren to be ideal to meet modern street traffic conditions. Electrically-driven Sirens cannot be operated successfully by storage batteries in hard and continuous service. Hand-rotated Sirens are both exhausting and dangerous to the operator. Therefore, the mechanically-driven B & M Siren with its piercing screech that can be heard for miles is the ideal fire apparatus Siren.

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Lester H. Miles, Proprietor

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QUALITY GUARANTEED

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Prompt Deliveries

We Also Make the Durable

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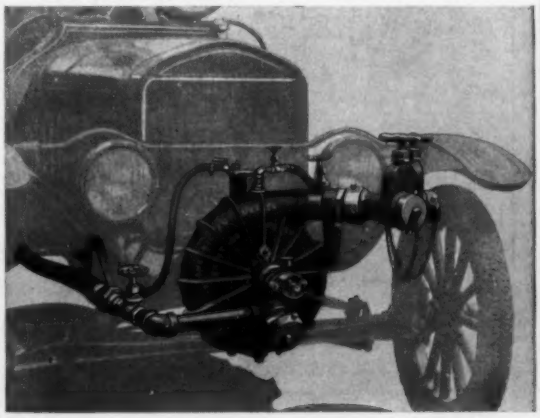
EVERSON-ROSS CO., INC.

88 Chambers St., New York

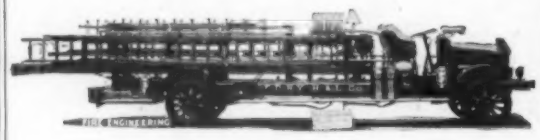


A Portable Fire Pump that is Efficient

The Barton Portable Fire Pump will furnish adequate fire protection for cities, towns and villages having motor driven apparatus. It is of special advantage in towns and villages having no paid department. It is always ready for emergency service and can furnish abundant capacity and pressure from any source of water supply. The Barton Portable Fire Pump provides efficient fire protection at low cost.

AMERICAN STEAM PUMP CO.
Battle Creek, Michigan

Light and Heavy



City Service
Hook & Ladder Apparatus

We build any type of Apparatus required and can furnish High Grade Ladders in either Trussed or Solid Side types. Each Ladder is carefully made, ironed, and equipped for safety, strength and service.

Up-to-date FIRE FIGHTING APPLIANCES.

Write us when interested.

Combination Ladder Co., Inc.
381 Fountain Street Providence, R. I.

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Fire Hydrants

Are given preference by so many fire protection and water works men because they know that more than half a century of experience go into their manufacture and they embody valuable and exclusive features.

Write for the Facts

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Waterford, N. Y.
James B. Clow & Sons, Chicago Agents

HALE PUMPS

THROUGH constant improvement in design, methods of manufacture and materials the *Hale* pump has steadily forged ahead.

HALE FIRE PUMP CO.
Conshohocken, Pa.

HAHN
Motor Fire Apparatus

Write for literature and prices on our 250, 350, 500 and 750-gallon triple combinations, chemical and hose combinations and city service trucks.

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Hamburg, Pa.

THE INTERNATIONAL LINE includes a Speed Truck for 2000-pound loads and Heavy-Duty Trucks ranging from 3000 to 10,000 pounds, maximum capacities. Municipal equipment available for every purpose. 111 direct Company branches in the United States.

INTERNATIONAL HARVESTER COMPANY
606 S. Michigan Ave of America [Incorporated] Chicago, Ill.

INTERNATIONAL HARVESTER COMPANY
TRUCKS

The "Corey" Fire Hydrant of the improved Rensselaer type is the easiest to operate of any on the market.

Ask for prices and details

FILL IN AND MAIL TO
RENSSELAER VALVE CO., Troy, N. Y.
Send me Hydrant Book, No. 9.

Name .....
Street ..... City .....

When in the Market
for New Equipment

please write us and we shall be glad to have the right manufacturers provide you with complete specifications and prices for your consideration. This service won't cost a cent nor place you under any obligation whatever. We just want to cooperate both with you and with manufacturers in every possible way.

FIRE ENGINEERING
225 W. 34th St., N. Y. C.

POLITICAL BATTLE IN NEW YORK SWAYS SELECTION OF COMMISSIONER

New Fire Department Appointee Is Brooklyn Borough Man—Office a Plum for Political Boss of That Section

NEW YORK CITY has a new fire commissioner. He is John J. Dorman, first lieutenant of political boss John H. McCooey of Brooklyn.

Personally popular and of strong physique Mr. Dorman is standard bearer of the John J. Dorman Democratic Club, a director in a bank, an organizer of a home owners' association in the Flatbush section of Brooklyn, an Elk, a Knight of Columbus, a Moose, an organization man and a "Hail Fellow Well Met." He is 50 years of age.

Commissioner Dorman's selection for the important post of commissioner of the fire department of the City of New York was the culmination of one of the most acrimonious internal battles within the Democratic Party in New York. For eight years past the commissioner had been Thomas J. Drennan, also a democratic district leader in Brooklyn and one of Boss McCooey's sturdiest henchmen. Drennan, like McCooey, and Dorman, supported Mayor John F. Hylan last Fall in the Democratic primaries. Hylan lost to "Jimmy" Walker, the present mayor.

When the election was won by the Walkerites, the Tammany Hall contingent said—"Drennan must go." Mr. Drennan had not been over-popular either as commissioner or as a politician. Drennan however managed to save his political face by being

Fire Commissioner Drennan Turns Over His Office to His Successor.

L. to R., Former Fire Commissioner Thomas J. Drennan, of New York City (holding paper), and the New Commissioner, John J. Dorman.

retained through friends influential with Gov. Smith and Judge Olvany the leader of Tammany Hall. Drennan was reappointed on January 1, but it was generally known that this was done only to avoid embarrassment in his political district with his own constituency.

Finally the pressure became too great and Boss McCooey decided to take Drennan away from fire headquarters and give him another berth as commissioner of jurors in Brooklyn at $6,000 a year—a cut of $4,000 annually in pay. Drennan took it.

Then the friends of Deputy Fire Commissioner Joseph M. Hannon started a siege on Tammany Hall and on City Hall to have Mr. Hannon promoted to the post of commissioner, after eight years as deputy commissioner. Hannon had the job 99 per cent in his grasp, when Boss McCooey in Brooklyn delivered a strong ultimatum to Judge Olvany. Hannon was wanted for the place by most of the firemen and particularly by Mayor Walker whose pal and playmate he had been since childhood. Hannon was even Mr. Walker's best man at his wedding several years ago.

McCooey however was obdurate. He told Judge Olvany that there should not be any reprisals as a result of the last election; that it was a united Democracy that was wanted, etc. Judge Olvany, despite the personal pleadings of Mayor Walker and others, let McCooey have the plum and for purely geographical and political reasons, the fire commissionership went back to Brooklyn and the friends of Deputy Commissioner Hannon, are still crestfallen over the blow and the bitter disappointment. Walker said that as a good organization man he had to respect the wishes of the party boss.

It is confidently predicted that Mr. Hannon will not remain as deputy commissioner under Mr. Dorman—not for any personal grievance, but because of the humiliation he has suffered at the hands of his party. Dorman is thoroughly "green" in the fire service, while Hannon has been at it for years and has a brother who is an engineer on one of the fireboats.

But a fire commissioner in New York does not necessarily have to know much about the job. The department is almost entirely conducted by the fire chief, on whom commissioner after commissioner place full reliance and full responsibility.

W. J. Carroll Now Sales Engineer

The many friends of William J. Carroll, formerly in charge of the publicity department of the Gamewell Company, will be pleased to learn that he is now associated with their New England office as sales engineer.

As publicity manager for seven years for the Gamewell Company, he accumulated a considerable knowledge of fire alarm work and became well versed in the fire alarm field. Many articles written by him have appeared in FIRE ENGINEERING. His new address is 1022 Commonwealth Ave., Boston, Mass.

W. J. Carroll

Portland Considers Pay Increase

The problem of an increase in salary for the members of the Portland, Ore., fire department will be voted on at the city elections to be held the end of this month.

It is stated that most every one of the Pacific coast cities pay their firemen between $10 to $45 a month in excess of the amount paid to the Portland firemen. These cities include Seattle, Tacoma, San Francisco, Los Angeles, San Diego, Oakland, Sacramento, and Berkeley. The Mayor and many of the city officials have issued statements in which they mention that the men are underpaid. Firemen entering the service receive $130 a month and at the end of 2½ years, the salary is increased to $$155 a month. This amounts to 36 to 43 cents an hour. Common labor is paid 50 cents an hour.

Girl Appointed Chief at Boston College

The equality of the sexes was further exemplified in the appointment of Miss Ruth A. Held of Bridgeport, Conn., as fire chief of Boston University College of Practical Arts and Letters. Dean Davis who gave her this important post at the girls' dormitories, selected Miss Held from among her two hundred associates as the "calmest girl in the college."

She is being coached by Chief D. E. Johnson, head of the fire department in her home city, in the use of the various appliances for fire extinguishment and in the details of a modern fire-fighting organization. Miss Held takes the honor seriously and intends to establish a system of fire drills at the college that will enable her to empty the building within a short period after the alarm is sounded.

Miss Ruth A. Held, Fire Chief, Boston University College Practical Arts and Letters

It is believed that this is the first time a girl has been appointed to the important position of fire chief.

T. F. MAGNER.

Two Spray-Booth Fires

(*Continued from page* 524)

The Second Fire

The second spray-booth fire occurred at the Anthes-Baetz Furniture Company, Kitchener, Ont. Two booths using pyroxylin lacquer for finishing furniture were located at opposite ends of the top story of a three-story building. The booths were about 90 feet apart and close to the side walls of the building. They faced away from each other and toward the end walls, which were ten to fifteen feet distant in each case. Both spray booths were of metal about ten feet square and each was ventilated by a large exhaust pipe extending up through the roof.

A wooden partition from floor to ceiling and containing three large windows extended entirely across the room between the booths. On each side of the partition the floor space was used for the storage of furniture in process, although but a few pieces were near the booths. There was also some staining, filling and rubbing of furniture carried on in these rooms.

At about 10:00 a. m. the north booth, which has been idle since the previous day, was discovered to be on fire, apparently due to spontaneous ignition in the accumulation of lacquer on the walls and floor of the booth. There were no sprinklers in the booths and an employee tried to use a pail of sand on the fire, but the heat and fumes drove him from the room. The flames from the ventilator set fire to the tar roof-covering which had been recently laid but not covered with gravel. A strong wind quickly spread the fire over the roof to the other ventilator, igniting the deposit of lacquer inside the pipe. The fire then flashed down into the second booth.

Eleven sprinklers opened around the first booth and twelve around the second. The sprinklers were supplied with city water good for 400 gallons per minute at 50 pounds pressure, and from a 25,000 gallon tank on the roof as a secondary supply. The flames issuing from the booth were not directed toward the stock of goods in the room but toward the end windows. On this account there was no tendency for the fire to flash throughout the room; and the sprinkler water protected the building and contents so well that only a small area of the roof was charred in front of each booth. The only furniture burned was inside the south booth and on a rack just outside.

The city-water pressure was raised to 80 pounds fire pressure soon after the start of the fire. This was sufficient to furnish three good hose streams without the use of fire engines, and also ample water for the sprinklers, so that the water level in the sprinkler tank was lowered only two feet during the fire.

The water from the sprinklers and from the hose streams used by the public fire department damaged veneered goods on all floors. Although the fire loss was less than one thousand dollars, the water loss may reach $25,000.

It is worthy of especial note that in these spray-booth fires the large water loss in each case was due to the location of the spraying process on the top story of a building containing large values on the floors below.

Lessons of This Fire

1. Enclose or detach such hazardous processes; and when in upper stores waterproof and drain floors.
2. Clean spray booths and ventilating pipes frequently. Put sprinklers in spray booths.
3. Sprinklers with ample water supplies are efficient in hazardous occupancies.
4. Tar roofs without gravel or slay covering are hazardous. —*Factory Mutual Record.*

N. E. Chiefs' Association Convention

(*Continued from page* 506)

Chief Charles H. French, of the Manchester Fire Department, and vice-president of the association, is in charge of the local arrangements and has enlisted the aid of the Chamber of Commerce and city officials in arranging for extending a royal welcome to the visiting chiefs. The convention headquarters will be in the Hotel Carpenter.

An interesting program is being arranged by Chief John W. O'Hearn, of Watertown, Mass., secretary of the association in conjunction with the board of directors. Chief Daniel E. Johnson, of Bridgeport, the president of the association, and all of the state vice-presidents are bending every effort to make the 1926 convention the best one ever held.

As a feature of the last day of the session there will be a parade and review of the Manchester Fire Department. The complete program of topics, speakers, and events will be announced later. Time will be allowed for a round table discussion which is expected to bring out many points of interest.

HARRY BELKNAP

Intelligent Fire Department Leadership

(*Continued from page* 504)

fire. In olden days it was not an uncommon sight to see any number of streams being played from the sidewalk into windows of a burning structure. Nowadays the practice is to ventilate the building and to go inside to where the fire can be seen and throw the water where it belongs. This advancement has been brought about by the development of powerful streams devices, paradoxical as that statement may seem, but it didn't take a chief long to see that if he put 1,000 gallons of water a minute on a fire from a water tower turret pipe or deluge set for any length of time he ceased to be a fireman and became a hydraulic miner. In addition, pouring 1,000 gallons of water a minute into a building was adding four tons a minute to the floor load and it wouldn't be long before he collapsed the floor and probably killed someone.

Introduction of Salvage Work

The statement has been made that fully 75 per cent. of the damage at a fire is due to water damage. From personal observation I am prepared to accept that statement for 90 per cent. of the fires attended by fire departments where no attempt is made to reduce the water damage by spreading waterproof blankets or salvage covers. The advantages of these covers are so evident that where they are not used it simply means the chief is asleep on watch. The usual argument that it requires men to spread covers who are needed to fight fires, can generally be offset if all the men who are working on special details are put to work fighting fires. Recently in a large city, I found 75 men available for work of this kind. Another thing to be remembered is that there is no need to rush about in doing salvage work where there is intelligent operation of hose streams. I know of several instances where the chief in charge has directed covering operations before starting the water. My recommendation to a chief who is battling with a high fire loss record would be to start practicing salvage methods.

What's Burning

(*Continued from page* 516)

WOODBRIDGE, ONT.—Building of Woodbridge Tannery destroyed. 225
RICHMOND, VA.—Store of H. D. Brinser Handle Company . . 80
MOUNT UNION, PA.—Casidy-Zunger Motor Company building. 30
RICHMOND, VA.—Store of H. D. Brinser Handle Company. . . 80
CHICAGO, ILL.—Cooking plant of Armour & Company. 160
Plant of Overhead Sash & Door Company. 60
Continental Mfg. Company building. 125
BEDFORD VILLAGE, N. Y.—Barn on R. K. Clark estate destroyed 25
PIERMONT, N. Y.—The Robert Gair Mill destroyed. 30
MIAMI, FLA.—Warehouse of Pease Company, 5 miles north. . . 100
ELIZABETH CITY, N. J.—Warehouse of Eastern Cotton Oil Company, north shore of Knobbs Creek. 45
CORNING, N. Y.—Corning Club destroyed, church damaged. . 60
YORK, PA.—Plant of Eyster-Weiser Company. 40
RIVERSIDE, N. J.—Seven homes on Kossuth Street destroyed. 25
YORK, PA.—Schmitt & Ault Paper Company. 80
NEW LONDON, WISC.—Buildings in business district. 40
PITTSBURG, PA.—Building at 810-16 Penn Avenue. 100
ATLANTIC CITY, N. J.—Malatesta Hotel. 40
LISTIE, PA.—Business district badly damaged. 60

Additional Data on Sprinklered Fire

In connection with the story published in the March 25 issue on "Sprinkler System Collapses at Fire" describing a fire which occurred in a wheat flouring mill, I. G. Hoagland, secretary of the National Automatic Sprinkler Association, writes that the mill was not completely sprinklered at the time of the fire. The flames had gained headway at unprotected floor openings and it spread to the unsprinklered portions of the building. It gained such headway that the roof collapsed with the consequential damage to the sprinkler system although the sprinklers on the lower functioned successfully at the time of the roof collapse.

Toms River, N. J., Observes Memorial Services—The firemen of Toms River, N. J., observed their annual memorial services at the First Baptist Church.

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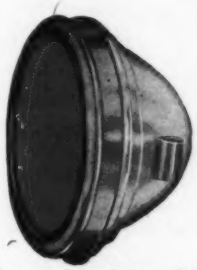

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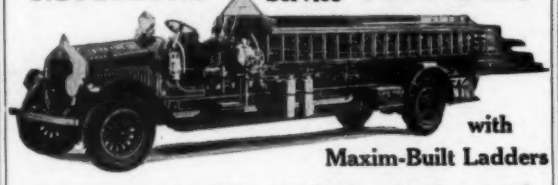

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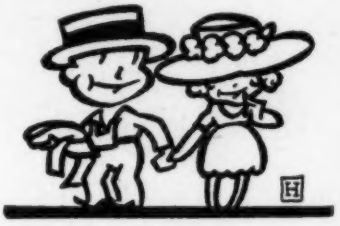

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THE firesafe roof is becoming a public necessity and in a great many cities is demanded by ordinance.

In the meantime, John Citizen is doing some thinking on his own account and is in thousands of cases himself demanding the protection of asbestos on his roof, even in communities where no such law has yet been passed.

Asbestos and its allied products
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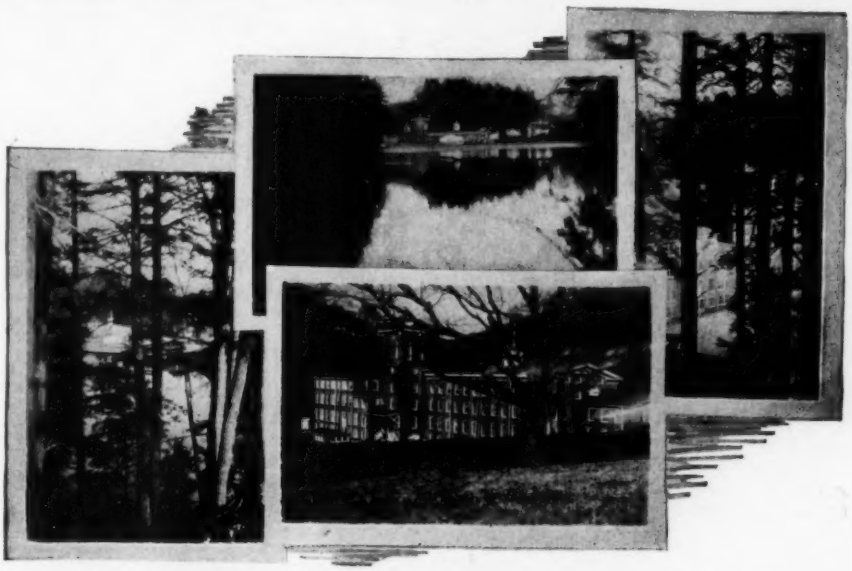

Birdseye Views of the Sandy Hook, Connecticut, Plant where we make the Famous

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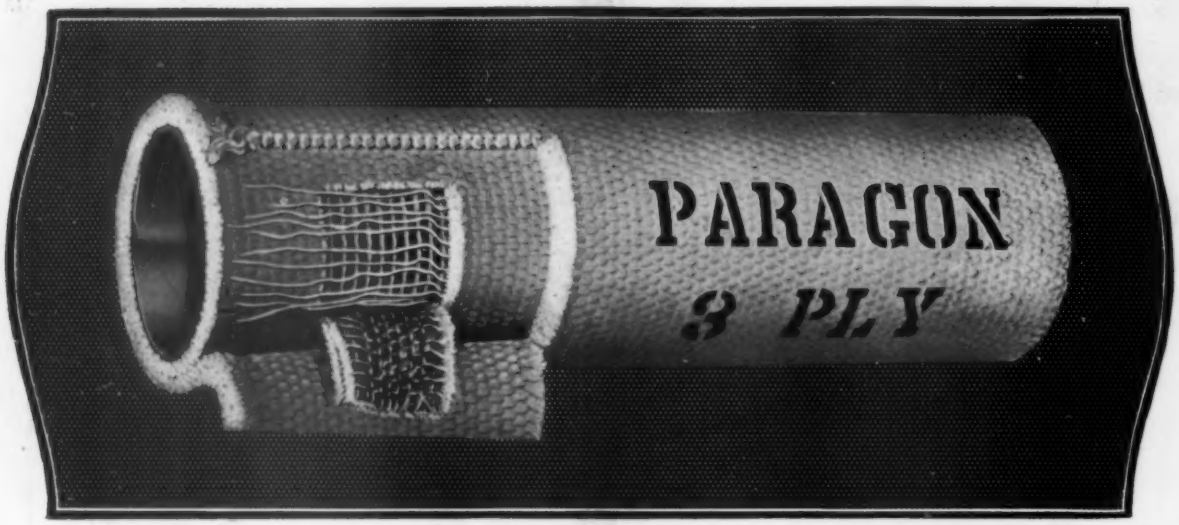

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For over fifty years Paragon and the other famous brands of Eureka manufacture have been the recognized standards of fire hose quality and service.

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